

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

OFFICE OF URBAN DESIGN

Project number: STP-8042(9)

County: Muscogee

P.I. Number: 351190

US Route Number: I-185

State Route Number: N/A

RECOMMENDATION FOR APPROVAL:

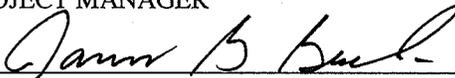
11-30-05

DATE

11-30-05

DATE


PROJECT MANAGER


STATE URBAN DESIGN ENGINEER

This project concept is contained in the Regional Transportation Improvement Program(RTIP) and/or in the State Transportation Improvement Program(STIP). The concept as presented herein and submitted for approval is consistent with that which is included in the RTIP and/or the STIP.

DATE

STATE PLANNING ADMINISTRATOR

DATE

STATE TRANSPORTATION PROGRAMMING ENGINEER

DATE

STATE ENVIRONMENTAL / LOCATION ENGINEER

DATE

STATE TRAFFIC SAFETY AND DESIGN ENGINEER

DATE

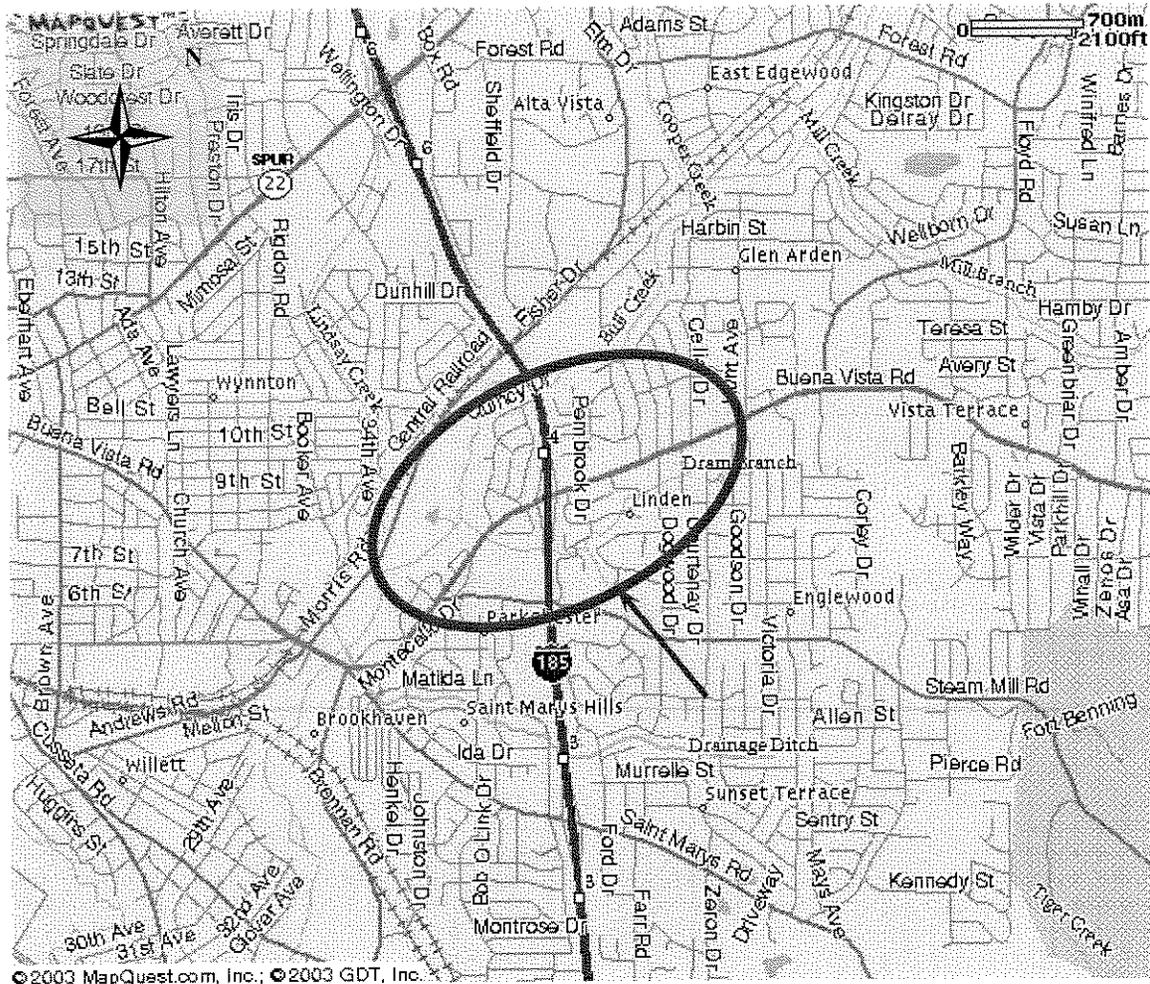
DISTRICT ENGINEER

DATE

PROJECT REVIEW ENGINEER

DATE

BRIDGE DESIGN ENGINEER



Location Map

Project: STP-8042(9), Muscogee County

PI No.: 351190

Description: I-185 @ Buena Vista Road Interchange

NEED & PURPOSE STATEMENT

Project No. STP-8042(9), P.I. No. 351190, Muscogee County

I-185 @ Buena Vista Road Interchange

The purpose of Project STP-8042(8), I-185 @ Buena Vista Road Interchange Reconstruction, is to relieve traffic congestion and improve the operational efficiency at the interchange of Interstate 185 at Buena Vista Road (CS 2228). The needs for the proposed project would be to add capacity to the interchange and CS 2228, to improve access to and from the interchange, and to provide safer travel environment around the interchange. The proposed improvements would provide added capacity, improved access, and safer access by providing dedicated turning and thru lanes and providing separation for directional traffic along Buena Vista Road. The exit and entrance ramps of I-185 would also be upgraded in order to reduce weaving that could impact the interstate's levels of service. Project STP-8042(9) is included in the local long range and transportation improvement plans for the Columbus MPO, the Columbus-Phenix City Transportation Study (C-PCTS).

The current average daily volume of traffic for Buena Vista Road within the project area is 41,600 (2006) and the projected volume is 55,300 (2026). There are four intersections along Buena Vista Road, within the project limits, currently operating at unacceptable levels of service. These intersections are:

Intersection	Existing Level of Service	
	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
Buena Vista Road @ Brighton Road	F	F
Buena Vista Road @ Fairfield Drive	B	F
Buena Vista Road @ Linden Circle, west of Pembroke	F	F
Buena Vista Road @ Pembroke	F	F

Several movements at the I-185 ramp intersections with Buena Vista Road also currently operate at unacceptable levels of service at current traffic volumes, as shown in the following table:

Intersection	Approach	Existing Conditions A.M. Peak Hour			Existing Conditions P.M. Peak Hour		
		Volume	Control Delay (sec/veh)	Level of Service	Volume	Control Delay (sec/veh)	Level of Service
Buena Vista Road at I-185 SB Ramps (Signalized)	<i>EB Thru</i>	715	42.3	D	1,425	71.8	E
	<i>EB RT</i>	110	32.7	C	110	68.1	E
	<i>EB Total</i>	825	41.2	D	1,535	71.6	E
	<i>WB LT</i>	340	3.7	A	335	19.3	B
	<i>WB Thru</i>	710	0.4	A	480	0.5	A
	<i>WB Total</i>	1,050	1.5	A	815	8.8	A
	<i>SB LT</i>	440	55.7	E	610	65.5	E
	<i>SB RT</i>	215	10.8	B	335	9.8	A
	<i>SB Total</i>	655	41.3	D	945	46.2	D
Total	2,530	23.8	C	3,295	48.2	D	
Buena Vista Road at I-185 NB Ramps (Signalized)	<i>EB LT</i>	370	4.3	A	400	3.7	A
	<i>EB Thru</i>	785	0.7	A	1,635	1.4	A
	<i>EB Total</i>	1,155	1.9	A	2,035	1.9	A
	<i>WB Thru</i>	950	29.9	C	650	61.0	E
	<i>WB RT</i>	635	23.4	C	700	46.2	D
	<i>WB Total</i>	1,585	27.5	C	1,350	53.7	D
	<i>NB LT</i>	100	60.2	E	165	92.2	F
	<i>NB RT</i>	305	9.2	A	470	16.6	B
	<i>NB Total</i>	405	23.4	C	635	36.8	C
Total	3,145	17.7	B	4,020	25.1	C	

Based on the projected traffic in the design year 2026, all intersections within the project corridor will operate at unacceptable levels of service without the proposed improvements. These intersections are:

Intersection	2026 Level of Service	
	AM Peak Hour	PM Peak Hour
Buena Vista Road @ Brighton Road	F	F
Buena Vista Road @ Fairfield Drive	F	F
Buena Vista Road @ I-185 SB Ramps	F	F
Buena Vista Road @ I-185 NB Ramps	E	D
Buena Vista Road @ Linden Circle, west of Pembrook	F	F
Buena Vista Road @ Pembrook	F	F
Buena Vista Road @ Linden Circle & Shopping Center, east of Pembrook	E	E

Without the proposed improvements, access to and from the interstate will be severely limited. There will be unacceptable levels of service at the ramp intersections with Buena Vista Road. The operations of the Interstate will be affected by the back up of traffic from the southbound exit ramp to Buena Vista Road during peak hours. The Interstate would operate at a level of service F in the Future (2026) AM and PM peak hours at the diverge section of the southbound exit ramp.

Within the project area, Interstate 185 operates as an urban interstate and Buena Vista Road operates as an urban arterial. Current land use in the project corridor is highly developed commercial land use and no major shifts in land uses are anticipated. Therefore, current traffic patterns are not expected to change. The nature of the development in the area (high number of driveways) has contributed to both the operational and safety problems currently being experienced along Buena Vista Road.

Interstate 185 is experiencing accident and injury rates that are higher than the statewide average for an urban interstate. The proposed project would improve the safety of I-185 in the project area by improving the ramp alignments, adding additional ramp deceleration length, and avoiding queuing from Buena Vista Road back to the Interstate.

Buena Vista Road (CS 2228) is also currently experiencing high accident and injury rates within the project corridor compared with the statewide average for an urban principal arterial. The Accident rates for CS 2228 currently exceed the statewide average for urban arterials; along the project, the accident rates are more than thrice the statewide average in some locations. Injury rates are also well above the statewide average throughout the project. These high accident and injury rates can be attributed to the highly developed nature of the corridor, and the fact that left turns are allowed at all locations via a center two-way left turn lane.

The purpose of this project is to relieve traffic congestion and improve the operational efficiency of the Interstate 185 at Buena Vista Road Interchange and thereby improving access to and from the Interstate.

Crash Data - P I No. 351190

URBAN INTERSTATE				
Interstate 185, Milepoint (MP) 3.77 to MP 4.23			Statewide Averages	
Year	Accident Rate	Injury Rate	Accident Rate	Injury Rate
2002	990	374	204	49
2001	796	255	197	51
2000	1076	584	196	48

URBAN PRINCIPAL ARTERIAL				
Buena Vista Road, Brighton Road to Dogwood Drive			Statewide Averages	
Year	Accident Rate	Injury Rate	Accident Rate	Injury Rate
2002	935	355	588	148
2001	1331	474	547	143
2000	1318	580	493	126

Buena Vista Road (CS 222803)		Prevailing Type of Accident	Number of Accidents at Intersecting Street		
Brighton Road to Dogwood Drive	Mile Point (MP)		Year 2000	Year 2001	Year 2002
Intersecting Street (s)					
4.23 – 4.32	Brighton Drive	Angle Intersect	---	6	7
4.35 – 4.41	Fairfield Drive	Angle Intersect	7	---	1
4.43 – 4.52	I-185	Rear End	105	81	98
4.53 – 4.56	Linden Cir, West of Pembrook	Rear End	21	26	8
4.57 – 4.68	Pembrook Drive	---	---	---	---
4.71 – 4.79	Linden Cir, East of Pembrook	Angle Intersect	21	26	8
4.83 – 4.89	Woodburn Drive	---	---	---	---
4.90 – 4.92	Dogwood Drive	Angle Intersect	13	15	8
<i>Buena Vista Road, Brighton Rd to Dogwood Dr</i>		Rear End	38	28	39
Total Accidents in Project Area			205	182	169

PROJECT LOCATION AND DESCRIPTION

The proposed project consists of improvements to the interchange of Interstate 185 at Buena Vista Road. These improvements extend along Buena Vista Road from approximately 300' west of Brighton Road (mile log 4.17) to Dogwood Drive (mile log 4.90). Improvements along Interstate 185 consist of the reconstruction of the entrance and exit ramps to Buena Vista Road.

Buena Vista Road, within the project area, currently consists of a five-lane typical section, with two through lanes in each direction and a two-way center turn lane. The proposed project would add a through lane in the eastbound direction from Brighton Road to Linden Circle. A raised median is also proposed through the project limits, with median openings at Brighton Road, the intersections at the southbound and northbound ramp termini, Linden Circle and Dogwood Drive. Left and right turn lanes are proposed at all intersections, with double left turn lanes proposed to southbound and northbound Interstate 185. The existing traffic signals located at the intersections of the ramp termini, Linden Circle and Dogwood Drive would be upgraded as part of the project. A proposal for new signal at Brighton Road would be considered pending a signal warrant study at that location.

As part of the project, the intersections of Buena Vista Road at Fairfield Drive and Pembroke Drive would become right-in, right-out only. In addition, the most western intersection of Linden Circle at Buena Vista Road would be closed with the construction of a cul-de-sac.

The entrance and exit ramps to and from Interstate 185 at Buena Vista Road would be upgraded as part of the project. The improvements on the entrance ramps would include additional lanes to accommodate the double left turns from Buena Vista Road. Improvements to the exit ramps from Interstate 185 would include additional deceleration length on the ramps as well as improved signage and sight distance from the interstate. All ramps are proposed to be reconstructed with concrete pavement.

Is the project located in a Non-attainment area: ___ Yes X No

PDP CLASSIFICATION: Major , Minor

FEDERAL OVERSIGHT: Full Oversight , Exempt , State Funded , or Others

FUNCTIONAL CLASSIFICATION: I-185 – Urban Interstate
 Buena Vista Rd – Urban Principal Arterial

U.S. ROUTE NUMBER: I-185 **STATE ROUTE NUMBER:** 411

TRAFFIC (AADT): (See attached diagrams)

<u>Roadway</u>	<u>Base Year 2006</u>	<u>Design Year 2026</u>
Interstate 185	73,400	101,600
Buena Vista Road	41,600	55,300

EXISTING DESIGN FEATURES:

TYPICAL SECTION: I-185 - Three - 12' basic lanes in each direction with barrier wall in the median. Shoulders vary in width with 6' paved shoulders on the inside and 10' paved shoulders to the outside in most locations.

Buena Vista Road - 2 – 12' through lanes in each direction with 14' two-way left turn lane and a right turn lane from WB Buena Vista Road to NB I-185. Shoulders consist of curb and gutter with sidewalks in some locations.

Exit Ramps from I-185 – Tapered exits with single - 16' lane widening to three – 12' turn lanes at Buena Vista Road. Ramps are asphalt or concrete with asphalt overlay and graded shoulders are paved.

Entrance Ramps to I-185 – One – 16' lane of concrete pavement with graded shoulders on the inside and mostly curb and gutter on the outside.

	POSTED SPEED:	MIN. RADIUS OF CURVE:	MAX GRADE:
I-185	55 MPH	2500'	5.0%
Buena Vista Rd.	35 MPH	1528'	8.0%

RIGHT OF WAY WIDTH: I-185 Varies (200' Typ.)
 Buena Vista Road Varies (100' Typ.)

EXISTING MAJOR STRUCTURES:

1. Bridge – Buena Vista Road over I-185
2. Bridge – Steam Mill Road Bridge over I-185
3. Bridge – I-185 over Bull Creek

MAJOR INTERCHANGES: I-185 at Buena Vista Road

EXISTING LENGTH: Buena Vista Road – Approximately 0.70 miles long. Beginning mile log is 4.17 and ending mile log is 4.90.

I-185 – Approximately 1.09 miles long. Beginning at mile log 3.33 and ending at mile log 4.41.

PROPOSED DESIGN FEATURES

PROPOSED TYPICAL SECTION:

I-185 – Existing lane widths and configurations to remain undisturbed.

Buena Vista Road – The proposed typical section consists of 3 – 12’ through lanes in the EB direction and 2 – 12’ through lanes in the WB direction with a raised median of variable width. 12’ right and left turn lanes are also proposed at the median break intersections at Brighton Road, SB I-185 ramp termini, NB I-185 ramp termini, Linden Circle/ Starmount Mall, and Dogwood Drive. Proposed shoulders are 16’ wide with curb and gutter and sidewalk. Proposed right-of-way line is at the shoulder break point.

Exit ramps from I-185 – Single lane parallel type exit ramps that widen to three – 12’ turn lanes at Buena Vista Road. Inside graded shoulders are 10’ total width with 8’ paved, and outside graded shoulders are 12’ total width with 10’ paved. Guardrail, side barriers and “v” gutter to be constructed where appropriate.

Entrance Ramps to I-185 – Two 12’ lanes at Buena Vista Road narrowing to one – 16’ lane before the merge with I-185. Inside graded shoulders are 10’ total width with 8’ paved, and outside graded shoulders are 12’ total width with 10’ paved. Guardrail, side barriers and “v” gutter to be constructed where appropriate.

PROPOSED DESIGN SPEED: I-185 – 55 MPH

Buena Vista Road – 35 MPH

PROPOSED MAX GRADE: MAX. GRADE ALLOWABLE:

I-185	5.0%	5.0%
Buena Vista Rd	7.0%	8.0%
Commercial Driveway	11.0%	11.0%
Residential Driveway	16.0%	16.0%

DESIGN EXCEPTIONS REQUIRED FOR CONTROLLING CRITERIA

	UNDETERMINED	YES	NO
HORIZONTAL ALIGNMENT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROADWAY WIDTH	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SHOULDER WIDTH	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL GRADES	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CROSS SLOPES	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
STOPPING SIGHT DISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SUPERELEVATION RATES	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HORIZONTAL CLEARANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SPEED DESIGN	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VERTICAL CLEARANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGE WIDTH	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRIDGES STRUCTURAL CAPACITY	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DESIGN VARIANCES: None

ENVIRONMENTAL CONCERNS:

PERMITS REQUIRED (COE 404, WATER QUALITY, TVA): COE 404 (Individual)

PROBABLE LOCATION OF UST'S: Multiple locations at present or past gas station sites

PROBABLE LOCATION OF HAZARDOUS WASTE: Multiple dry-cleaners, auto shops and car wash sites

LEVEL OF ENVIRONMENTAL ANALYSIS: Environmental Assessment Anticipated

TIME SAVINGS PROCEDURES APPROPRIATE?: YES X NO

UTILITY INVOLVEMENTS: Electric (Atmos Energy), Telephone (Bellsouth), TV (Charter Communications, Mediacom & Knology), Water and Sewer (Columbus Water Works), Power (Georgia Power Distribution)

PROJECT RESPONSIBILITIES:

- Design, GDOT
- Right of Way Acquisition, City of Columbus
- Relocation of Utilities, City of Columbus
- Letting to contract, GDOT
- Supervision of construction, GDOT
- Providing material pits, Contractor
- Providing detours, N/A

COORDINATION:

INITIAL CONCEPT MEETINGS: April 9, 2003 (minutes attached)

CONCEPT TEAM MEETING DATE: TBD

P.A.R. MEETING: Currently Unscheduled

CONFORMS TO TIP/STIP? Yes MEETS LOGICAL TERMINI REQUIREMENTS? Yes

PUBLIC INVOLVEMENT: Public Hearing Required

LOCAL GOVERNMENT COMMITMENTS: _____

OTHER PROJECTS IN THE AREA: _____

OTHER COORDINATION TO DATE: _____

RAILROADS: None

SCHEDULING:

TIME TO COMPLETE ENVIRONMENTAL: (MONTHS) 18

TIME TO COMPLETE PRELIMINARY CONSTRUCTION PLANS: (MONTHS) 10

TIME TO COMPLETE RIGHT-OF-WAY PLANS: (MONTHS) 6

TIME TO COMPLETE 404-PERMIT PROCESS: (MONTHS) 6

TIME TO COMPLETE FINAL CONSTRUCTION PLANS: (MONTHS) 12

TIME TO COMPLETE PURCHASE OF RIGHT OF WAY: (MONTHS) 18

OTHER MAJOR ITEMS THAT WILL AFFECT THE PROJECT SCHEDULE: (MONTHS) _____

SCHEDULING CONSIDERATIONS: None

OTHER ALTERNATIVES CONSIDERED

No-build Alternative

This alternative would consist of no improvements to the interchange of Interstate 185 at Buena Vista Road. This alternative was not chosen because it does not improve the safety or operations identified as goals of this project.

Compressed Diamond Interchange – Widening to the South

This alternative consists of similar type interchange improvements with the widening of Buena Vista Road occurring to the south. This alternative was not carried forward because it resulted in increased right-of-way impacts.

Compressed Diamond Interchange – Concentric widening

This alternative consists of similar type interchange improvements with the widening of Buena Vista Road occurring on both sides. In order to maintain traffic during construction of this alternative would require that the bridge be constructed in three stages, as opposed to the two stage construction of the bridge under the preferred alternative. As part of the three stage construction, traffic would have to be split during the phased construction. The additional cost of the three stage construction, combined with the additional cost of traffic control relating to splitting traffic would be significantly higher than the cost of construction of the bridge under the preferred alternative.

The right-of-way costs of this alternative were also higher than that of the preferred alternative because damages result to property on both sides of the road as compared to just one side.

This alternative was not carried forward because it resulted in increased right-of-way impacts and made staging of the bridge construction more difficult.

Single Point Interchange

This alternative consisted of the construction of a single point interchange at the Interstate 185 interchange with Buena Vista Road. Capacity Analyses for this alternative show that the single point interchange does not operate as efficiently as the compressed diamond alternatives. This alternative would also result in a greater construction cost due to the increased bridge length over I-185. This alternative was eliminated due to these factors.

COMMENTS: The Value Engineering Study Reported submitted by the firm of Lewis & Zimmerman Associates, Inc. on October 5, 2005 was reviewed by the Project Manager and it was determined that no changes to the proposed concept be made.

ATTACHMENTS:

1. Construction Cost Estimate
2. Right-of-way Cost Estimate
3. Utility Cost Estimate
4. Typical Sections
5. Traffic Diagrams
6. 11"x17" Project Layout
7. Initial Concept Team Meeting minutes
8. Concept Meeting minutes
9. Concept Team Meeting minutes

NOTES/ COMMENTS: _____

ESTIMATE SUMMARY

RIGHT-OF-WAY \$ 25,471,500.00
REIMBURSABLE UTILITIES \$ 238,000.00

CONSTRUCTION COST SUMMARY

CLEARING AND GRUBBING \$ 500,000.00
GRADING COMPLETE \$ 500,000.00
BASE AND PAVING \$ 3,471,000.00
DRAINAGE \$ 192,000.00
CONCRETE WORK \$ 615,000.00
TRAFFIC CONTROL \$ 1,190,000.00
EROSION CONTROL \$ 200,000.00
GUARDRAIL \$ 62,000.00
SIGN/ STRIPE/ SIGNAL \$ 936,000.00
LANDSCAPING/ GRASSING \$ 35,000.00
MISCELLANEOUS \$ 445,000.00
SUBTOTAL ROADWAY ITEMS \$ 8,146,000.00
MAJOR STRUCTURES \$ 3,815,000.00
TOTAL CONSTRUCTION ESTIMATES \$ 11,961,000.00
5 % INFLATION FOR 4 YRS \$ 2,578,000.00
10 % E&C \$ 1,454,000.00
TOTAL \$ 15,993,000.00

**PRELIMINARY COST ESTIMATE
URBAN DESIGN OFFICE**

DATE: March 9, 2005 PREPARED BY: PBS&J

PROJECT NO.: STP-8042(9)

P.I. NO.: 351190 MILEAGE: 0.70 miles

PROJECT DESCRIPTION: Interchange Improvements at Interstate 185 at Buena Vista Road

EXISTING ROADWAY (If Applicable): Buena Vista Road

TRAFFIC: Existing: 41,600 (2006) Design: 55,300 (2026)

PROJECT COSTS

A. RIGHT-OF-WAY

1. PROPERTY (Land and Easements) \$ 25,471,500.00

B. REIMBURSABLE UTILITIES

1. SERVICES \$ 617,511.00

C. MAJOR STRUCTURES

1. BRIDGES

Bridge – I-185 over Bull Creek
6,700 SF x \$60/SF \$ 402,000.00

Bridge – Buena Vista Road over I-185
31,800 SF x \$80/SF \$ 2,544,000.00

2. CULVERTS

Extension of existing 10'x8' Box Culvert under I-185 \$ 100,000.00

3. MISCELLANEOUS

Retaining Walls at Bridge – 2250 SF @ \$60/SF \$ 135,000.00

Retaining Walls – 14,070 SF @ \$45/SF \$ 633,150.00

SUBTOTAL \$ 3,814,150.00

3. CONCRETE PAVING

<u>21,150</u> SY of <u>12" PC Conc. Pvmnt @ \$ 67.00</u>	\$ <u>1,417,050.00</u>
<u>21,150</u> SY of <u>PC Conc. Subbase @ \$ 25.00</u>	\$ <u>528,750.00</u>
<u>1200</u> SY of <u>Conc. Valley Gutter @ \$ 35.00</u>	\$ <u>42,000.00</u>
<u>6000</u> SY of <u>Driveway Concrete @ \$ 34.00</u>	\$ <u>20,400.00</u>
SUBTOTAL	\$ <u>3,470,065.00</u>

G. CONCRETE WORK

1. CURB AND GUTTER

<u>13,450</u> lf @ \$ <u>12.00</u>	\$ <u>161,400.00</u>
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2. SIDEWALKS

<u>4,662</u> sy @ \$ <u>26.50</u>	\$ <u>123,543.00</u>
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3. MISCELLANEOUS

<u>6,250</u> sy – Concrete Median @ \$31.00/ft	\$ <u>193,750.00</u>
<u>1,120</u> sy – Concrete Approach Slab @ \$121.00/ft	\$ <u>135,520.00</u>
SUBTOTAL	\$ <u>614,213.00</u>

H. SIGN/ STRIPE/ SIGNAL

<u>7,100</u> lf Striping 5" Solid Yellow @ \$0.25	\$ <u>1,775.00</u>
<u>11,500</u> lf Striping 5" Solid White @ \$0.25	\$ <u>2,875.00</u>
<u>410</u> lf Striping 24" Solid White @ \$3.30	\$ <u>1,353.00</u>
<u>8,100</u> lf Striping 5" Skip White @ \$0.15	\$ <u>1,215.00</u>
<u>40</u> ea. - Arrow @ \$54.00	\$ <u>2,160.00</u>
<u>1,300</u> sy Striping - White @ \$3.00	\$ <u>3,900.00</u>
<u>610</u> lf Striping Preformed 5" Solid Yellow @ \$4.00	\$ <u>2,440.00</u>
<u>14,480</u> lf Striping Preformed 5" Solid White @ \$4.00	\$ <u>57,920.00</u>
<u>190</u> lf Striping Preformed 24" Solid White @ \$38.00	\$ <u>7,220.00</u>
<u>1,680</u> lf Striping Preformed 5" Skip White @ \$3.00	\$ <u>5,040.00</u>
<u>17</u> ea. - Preformed Arrow @ \$285.00	\$ <u>4,845.00</u>
<u>2,500</u> ft Interconnect conduit and wire @ \$40.00	\$ <u>100,000.00</u>
ITS fiber and cameras - Lump	\$ <u>50,000.00</u>
5 – Traffic Signals @ \$75,000.00	\$ <u>375,000.00</u>
Highway signs – Lump	\$ <u>320,000.00</u>
SUBTOTAL	\$ <u>935,743.00</u>

I. GUARDRAIL

3,580	lf Ty W @ \$	14.00	\$	50,120.00
90	lf Ty T @ \$	30.00	\$	2,700.00
3	Anchors Ty 12 @ \$	1,500.00	\$	4,500.00
9	Anchors Ty 1 @ \$	500.00	\$	4,500.00

SUBTOTAL \$ 61,820.00

J. TRAFFIC CONTROL

1. TEMPORARY BARRIER

5,000 lf Ty Method 3 @ \$ 28.00 \$ 140,000.00

2. SIGN/LIGHT/ BARRICADES/ ETC.

Barrels, signs and lighting \$ 50,000.00

3. TRAFFIC CONTROL - LUMP

\$ 1,000,000.00

SUBTOTAL \$ 1,190,000.00

K. LUMP ITEMS

1. CLEARING AND GRUBBING

20 Acres @ \$ 25,000.00 \$ 500,000.00

2. LANDSCAPE/ GRASSING

5 Acres @ \$ 7,000.00 \$ 35,000.00

3. EROSION CONTROL

20 Acres @ \$ 10,000.00 \$ 200,000.00

SUBTOTAL \$ 735,000.00

L. MISCELLANEOUS

1. FENCING

10,000 lf @ \$ 15/ ft \$ 150,000.00

2. OTHER/ SPECIAL FEATURES

50 Right-of-Way markers @ \$85.00 \$ 4,250.00

1000 sy of Rip-Rap @ \$35.00 \$ 35,000.00

Field Engineers Office - Lump \$ 35,000.00

Wetland Mitigation - Lump \$ 20,000.00

Bridge Removal - Lump \$ 100,000.00

Noise Walls - Lump \$ 100,000.00

SUBTOTAL \$ 444,250.00

Preliminary Right of Way Cost Estimate

Date: February 12, 2004
Project: STP-8042(9) Muscogee **P.I. Number:** 351190
Existing/Required R/W: Varies/Varies **No. Parcels:** 32
Project Termini: Buena Vista Road from Brighton Road to Dogwood Drive
Project Description: I-185 at Buena Vista Road Interchange Improvements

Land:
 Commercial
 150,379 sf @ \$ 7.25/ sf = \$ 1,090,248

Improvements:
 14 businesses, 3 houses, 1 duplex, curbing, paving, signs, fencing and site improvements
 \$ 4,179,000

Relocation:
 14 Commercial @ \$ 25,000 / parcel = \$ 350,000
 4 Residential @ \$ 20,000 / parcel = \$ 80,000
 \$ 430,000

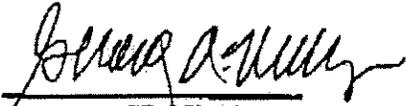
Damages:
 Proximity - 1 Parcel \$ 34,000
 Consequential - 2 Parcels \$ 254,000
 Cost To Cure - 8 Parcels \$ 234,000
 Trade Fixtures - 13 Parcels \$ 1,115,000
 \$ 1,637,000

\$ 7,336,248

Net Cost		\$	7,336,248
Scheduling Contingency	55 %	\$	4,034,936
Adm/Court Cost	60 %	\$	6,822,710
Inflation Factor	40 %	\$	7,277,558
		\$	<u>25,471,452</u>

Total Cost \$ 25,471,500

Prepared By: 
 Property Acquisition Consultants, LLC

Approved: 
 GDOT R/W



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

BUCHAN _____
 BOWMAN Neal
 RICHARDSON _____
 OTHER _____
 GROUPS _____
 FILE _____
 OFFICE Thomaston
 DATE April 29, 2004

FILE **Project # STP-8042(9), Muscogee County, P.I. # 351190**
Buena Vista Road, from Brighton Road to Dogwood Drive

FROM Thomas B. Howell, P.E., District Engineer

TO Ben Buchan, State Urban Design Engineer

SUBJECT **UTILITY COST ESTIMATE**

The following is a ballpark utility cost estimate for facilities located within the scope of the above referenced project.

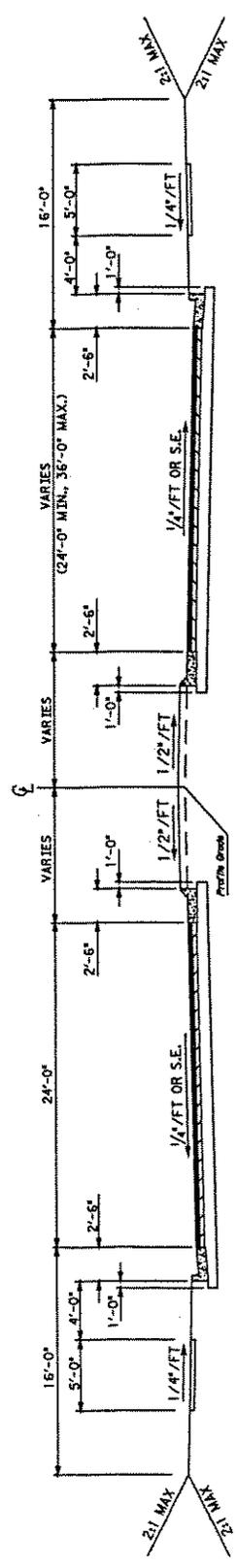
UTILITY OWNER	PUBLIC OR PRIVATE	TYPE OF UTILITY	REIMBURSABLE	NON-REIMBURSABLE
Atmos Energy	Private	Electric	0	63,400
BellSouth	Private	Tel Comm	0	91,034
Charter Communications	Private	TV	0	16,000
Columbus Water Works	Private	Water Sewer	0	397,790
Georgia Power (Distribution)	Private	Electric	238,000	0
Mediacom	Private	TV	0	13,160
Knology	Private	TV	0	36,127
TOTAL PROJECT COST			\$238,000	\$617,511

If you have any questions, please call Kim Brown at 706-646-6548.

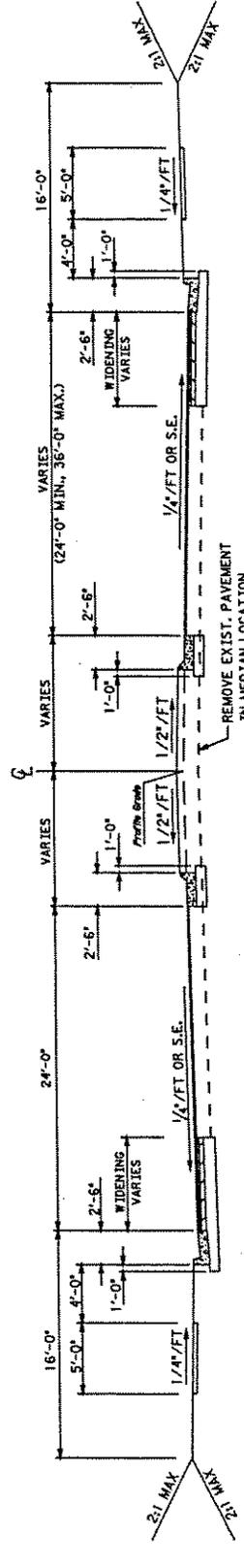
KMG:KB:pls

cc: Elaine Jackson, Secretary to Jeff Baker, P.E., State Utilities Engineer (via: e-mail)
 Scott Greene, P.E., Assistant State Utilities Engineer (via: e-mail)
 Terry Brigman, State Utilities Preconstruction Engineer (via: e-mail)

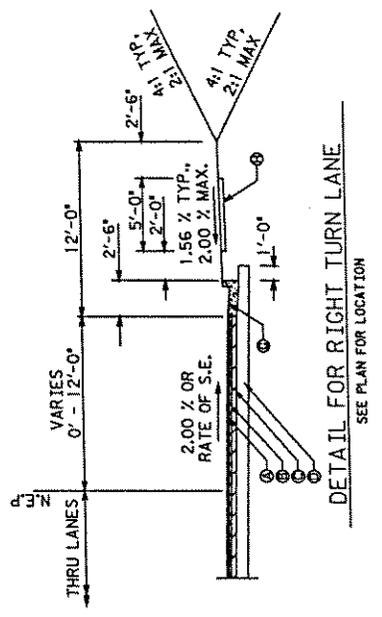
STATE	PROJECT NUMBER	TOTAL SHEETS
GA		



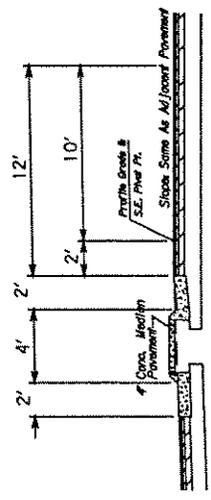
BUENA VISTA ROAD
FULL DEPTH CONSTRUCTION LOCATION



BUENA VISTA ROAD
PAVEMENT WIDENING LOCATION



DETAIL FOR RIGHT TURN LANE
SEE PLAN FOR LOCATION



DETAIL FOR MEDIAN TURN LANE
SEE PLAN FOR LOCATION

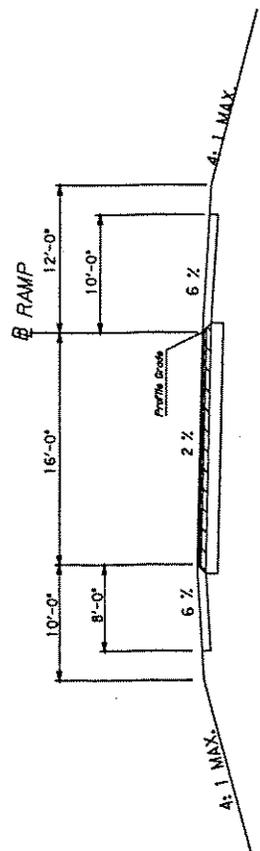
SHEET 1 OF 2

TYPICAL SECTIONS

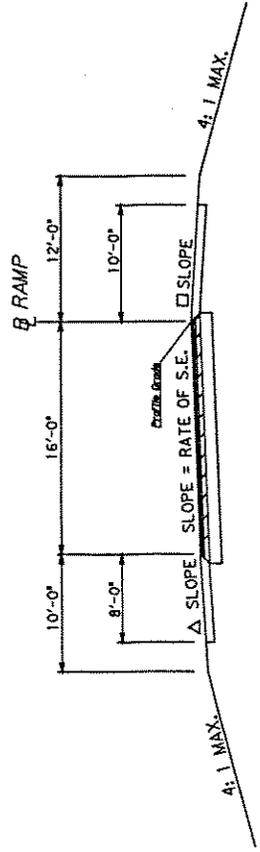
BUENA VISTA ROAD
TYPICAL SECTIONS

NOT TO SCALE

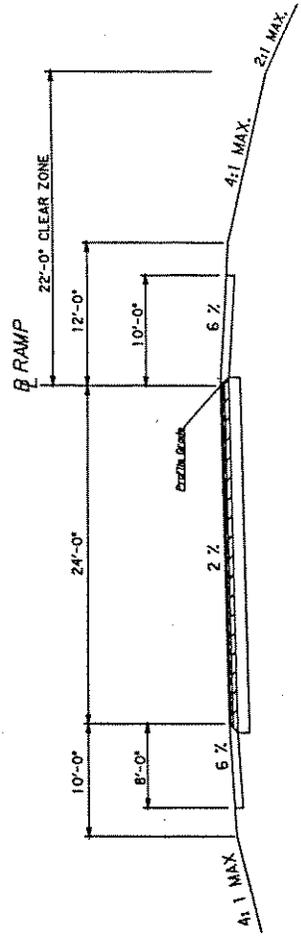
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA			



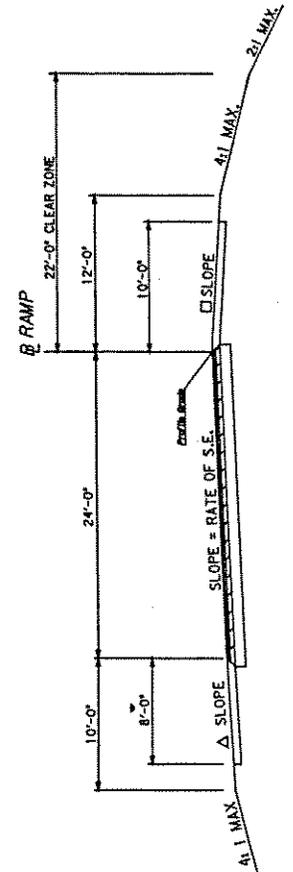
TANGENT SECTION
ONE - LANE RAMP



SUPERELEVATED SECTION
ONE - LANE RAMP



TANGENT SECTION
TWO - LANE RAMP

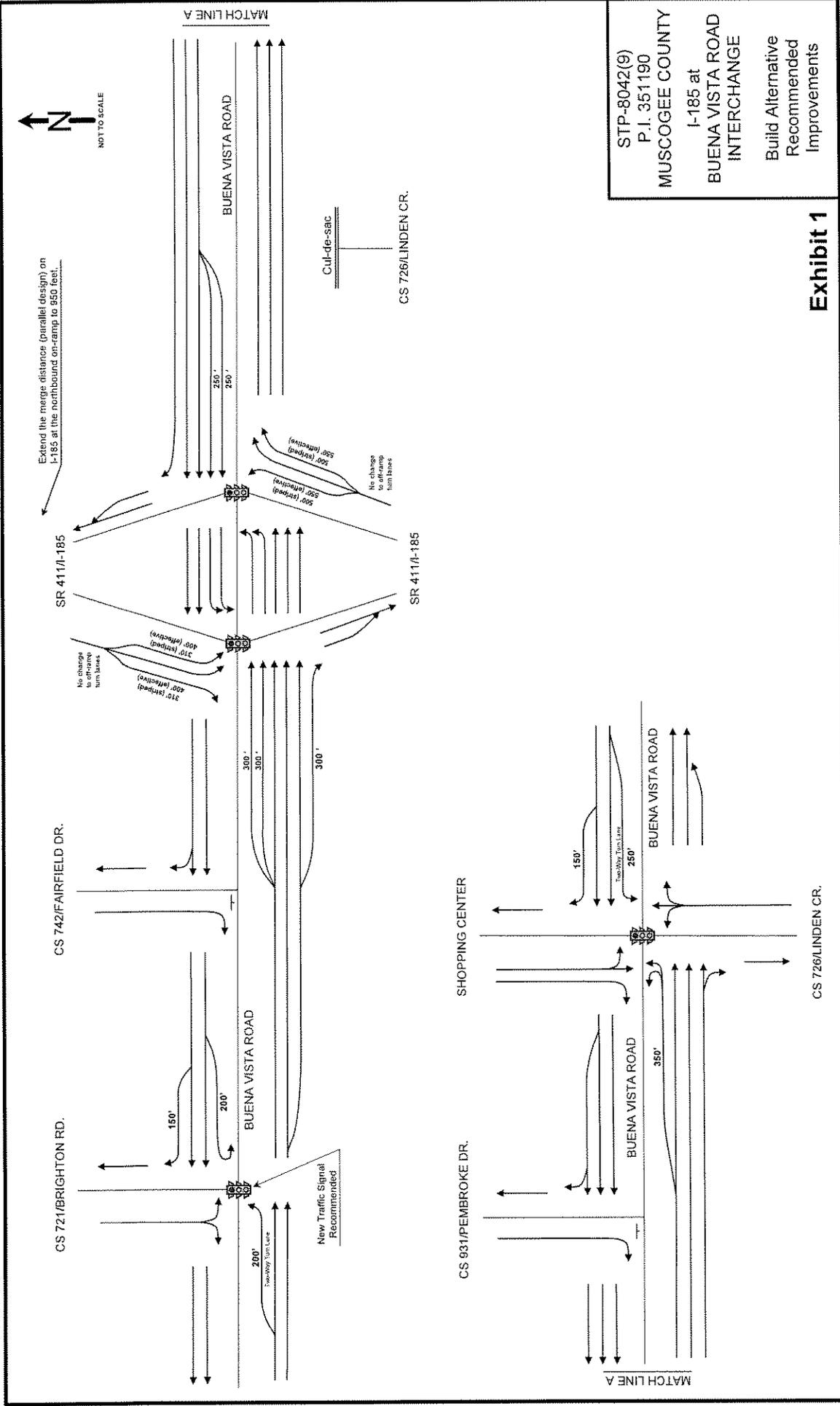


SUPERELEVATED SECTION
TWO - LANE RAMP

SHEET 2 OF 2

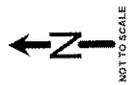
TYPICAL SECTIONS
EXIT AND ENTRANCE RAMPS
TYPICAL SECTIONS
NOT TO SCALE

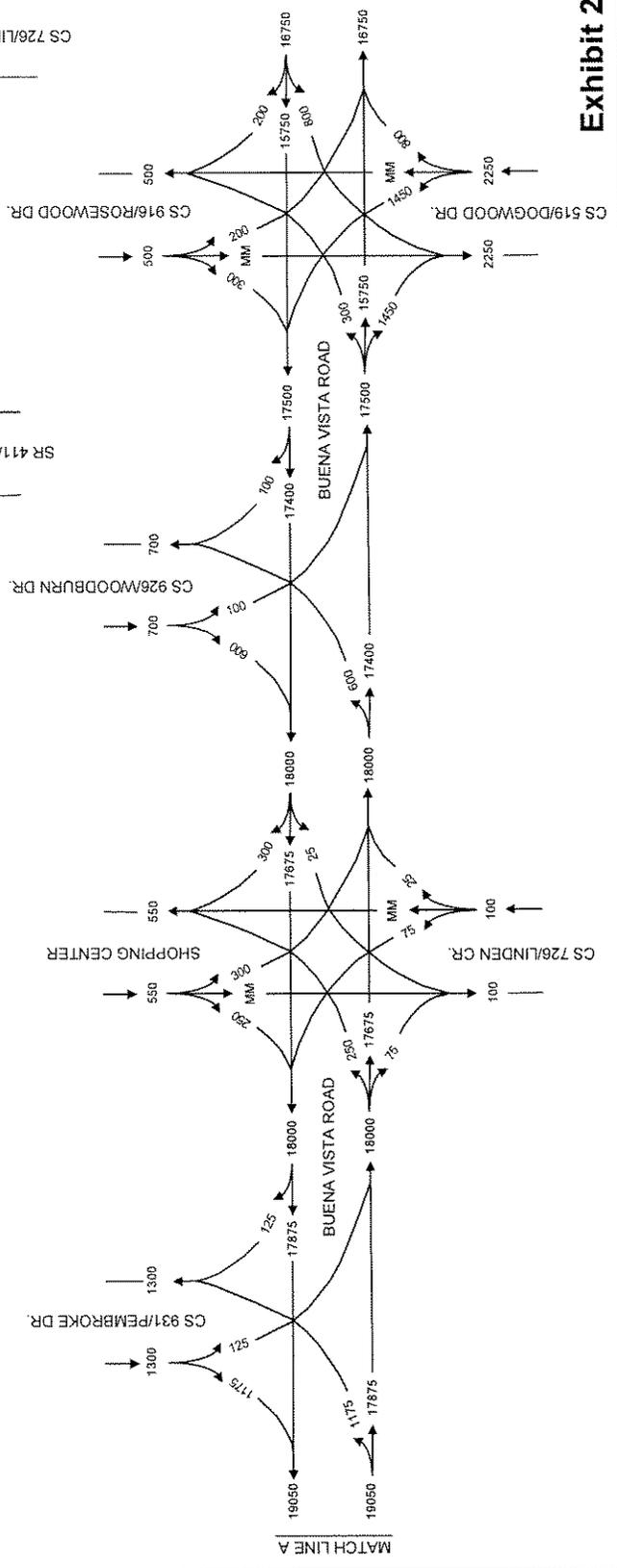
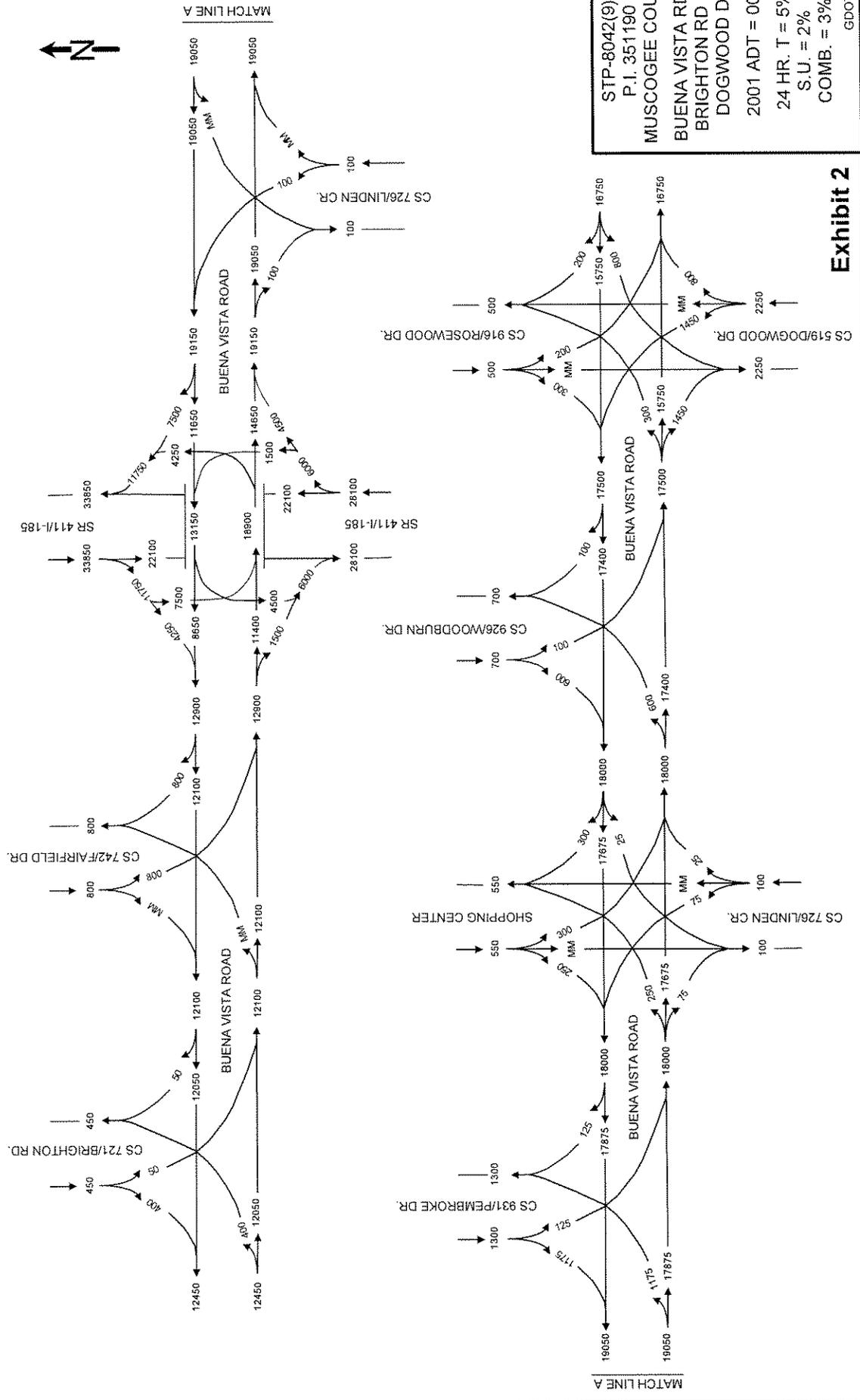
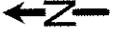
ASLOPE 6% OR RATE OF S.E. WHICHEVER IS GREATER
 OSLOPE AS FOLLOWS:
 S.E. RATE OF 0.098ft/ft OR LESS USE 0.131ft/ft
 S.E. RATE OF 0.131ft/ft, USE 0.098ft/ft
 S.E. RATE OF 0.164ft/ft, USE 0.065ft/ft
 S.E. RATE OF 0.196ft/ft, USE 0.032ft/ft
 S.E. RATE OF 0.264ft/ft, USE +0.032ft/ft
 ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER
 SLOPES NOT TO EXCEED 0.250ft/ft



STP-8042(9)
 P.I. 351190
 MUSCOGEE COUNTY
 I-185 at
 BUENA VISTA ROAD
 INTERCHANGE
 Build Alternative
 Recommended
 Improvements

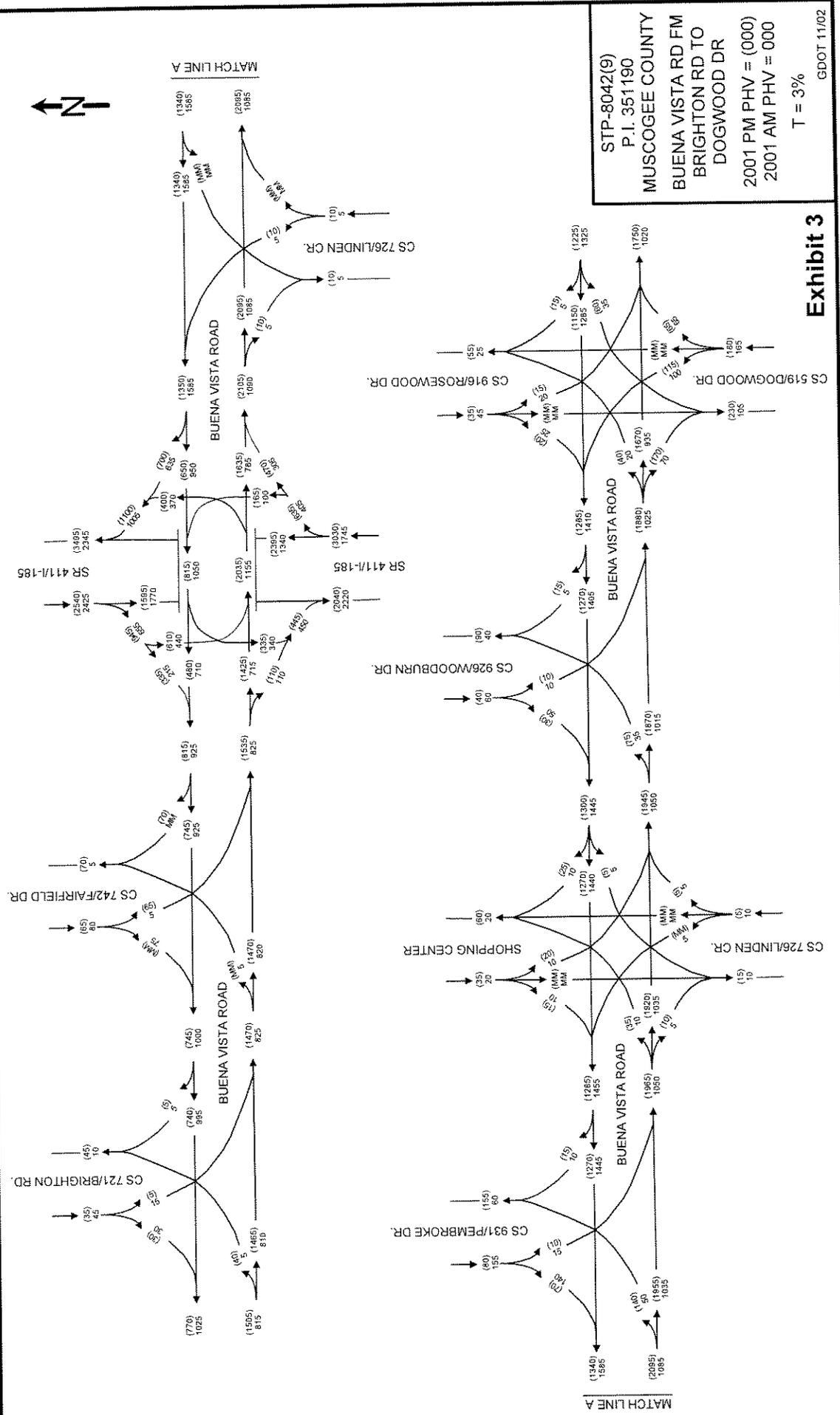
Exhibit 1





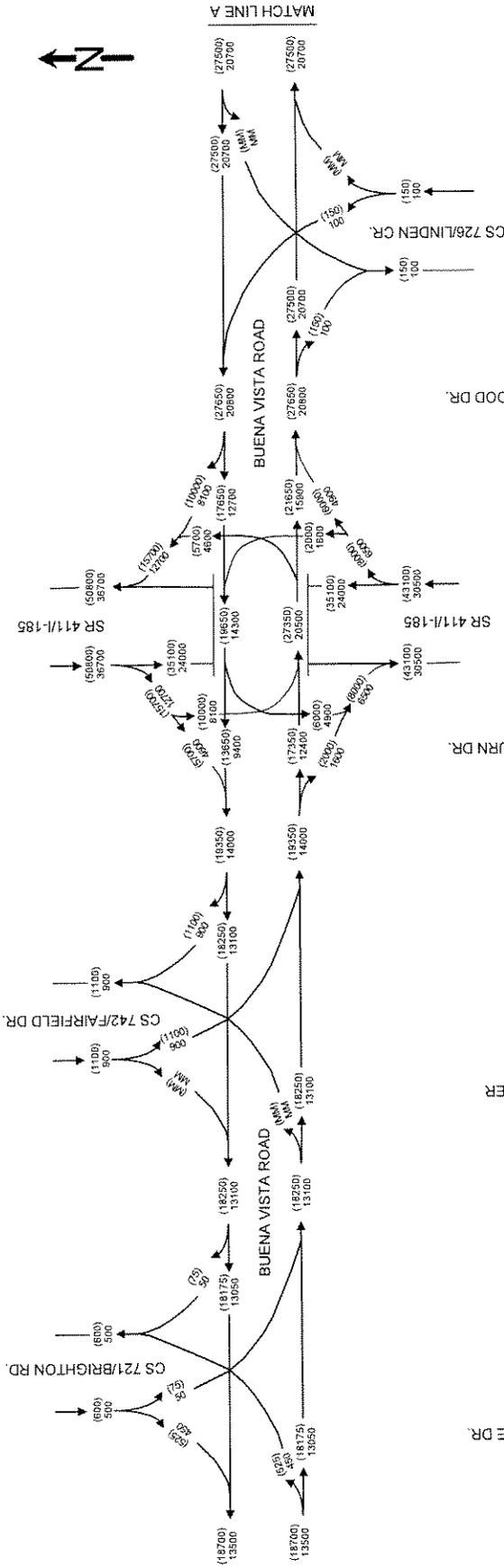
STP-8042(9)
P.I. 351190
MUSCOGEE COUNTY
BUENA VISTA RD FM
BRIGHTON RD TO
DOGWOOD DR
2001 ADT = 000
24 HR. T = 5%
S.U. = 2%
COMB. = 3%
GDOT 11/02

Exhibit 2



STP-8042(9)
 P.I. 351190
 MUSCOGEE COUNTY
 BUENA VISTA RD FM
 BRIGHTON RD TO
 DOGWOOD DR
 2001 PM PHV = (000)
 2001 AM PHV = 000
 T = 3%

Exhibit 3

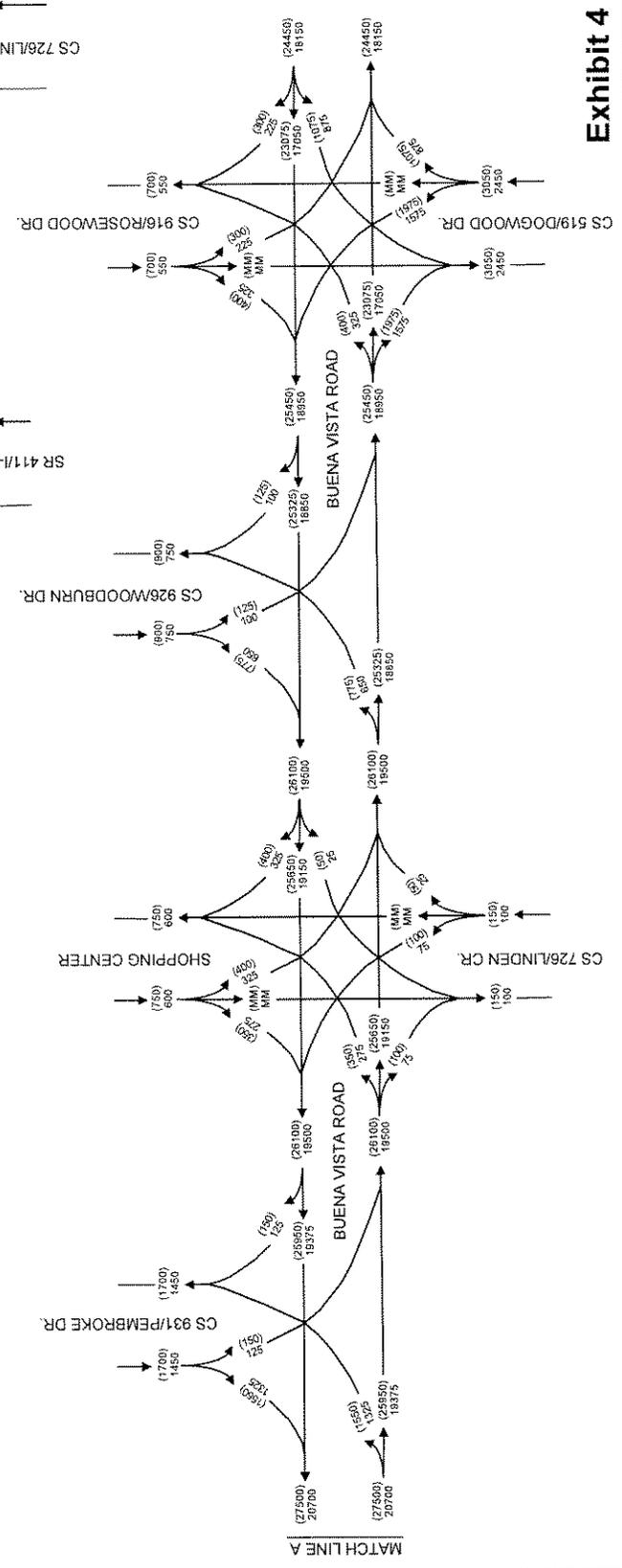


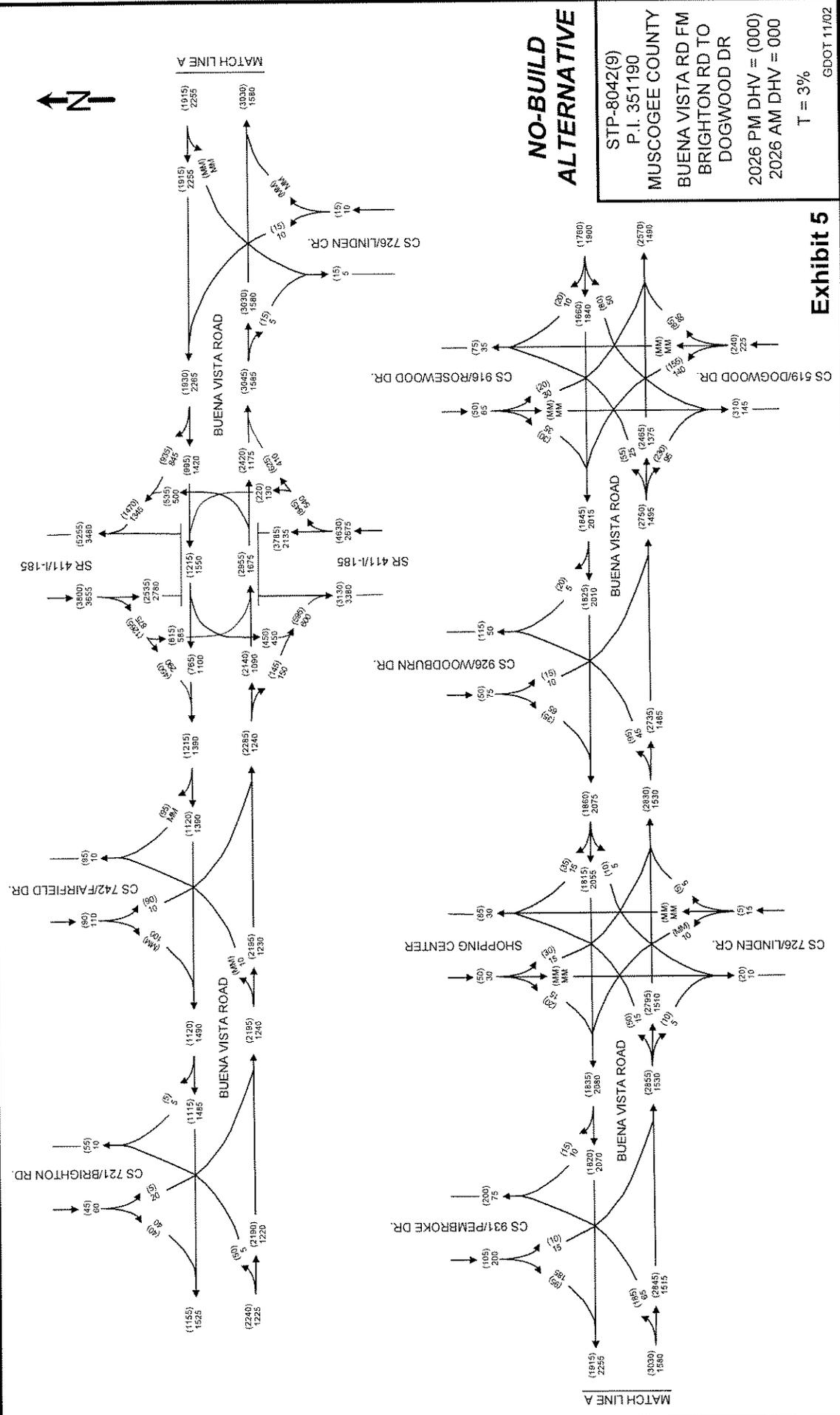
**NO-BUILD
ALTERNATIVE**

STP-8042(9)
P.I. 351190
MUSCOGEE COUNTY
BUENA VISTA RD FM
BRIGHTON RD TO
DOGWOOD DR
2026 ADT = (000)
2006 ADT = 000
24 HR. T = 5%
S.U. = 2%
COMB. = 3%

Exhibit 4

GDOT 11/02

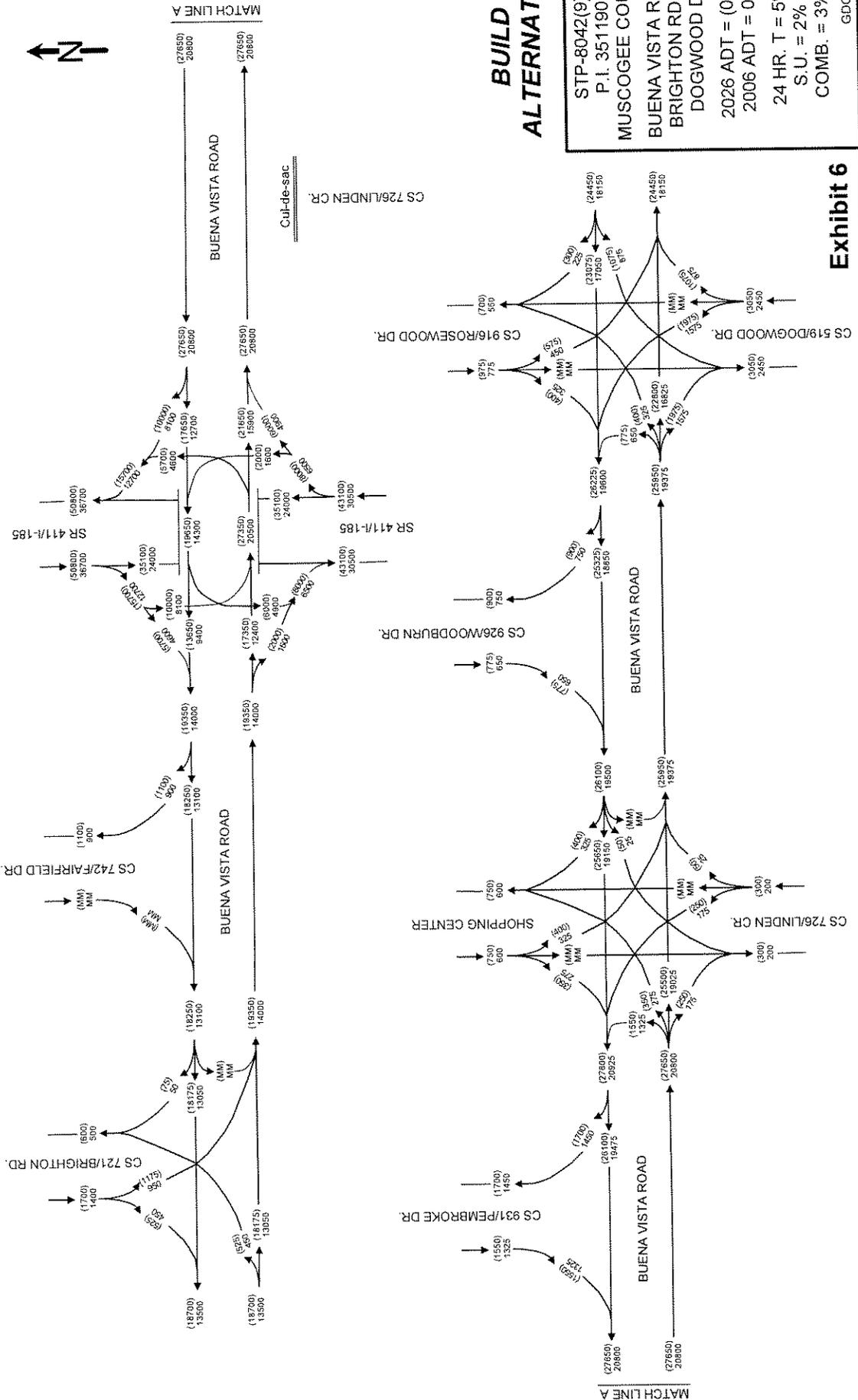




**NO-BUILD
ALTERNATIVE**

STP-8042(9)
 P.I. 351190
 MUSCOGEE COUNTY
 BUENA VISTA RD FM
 BRIGHTON RD TO
 DOGWOOD DR
 2026 PM DHV = (000)
 2026 AM DHV = 000
 T = 3%
 GDOT 11/02

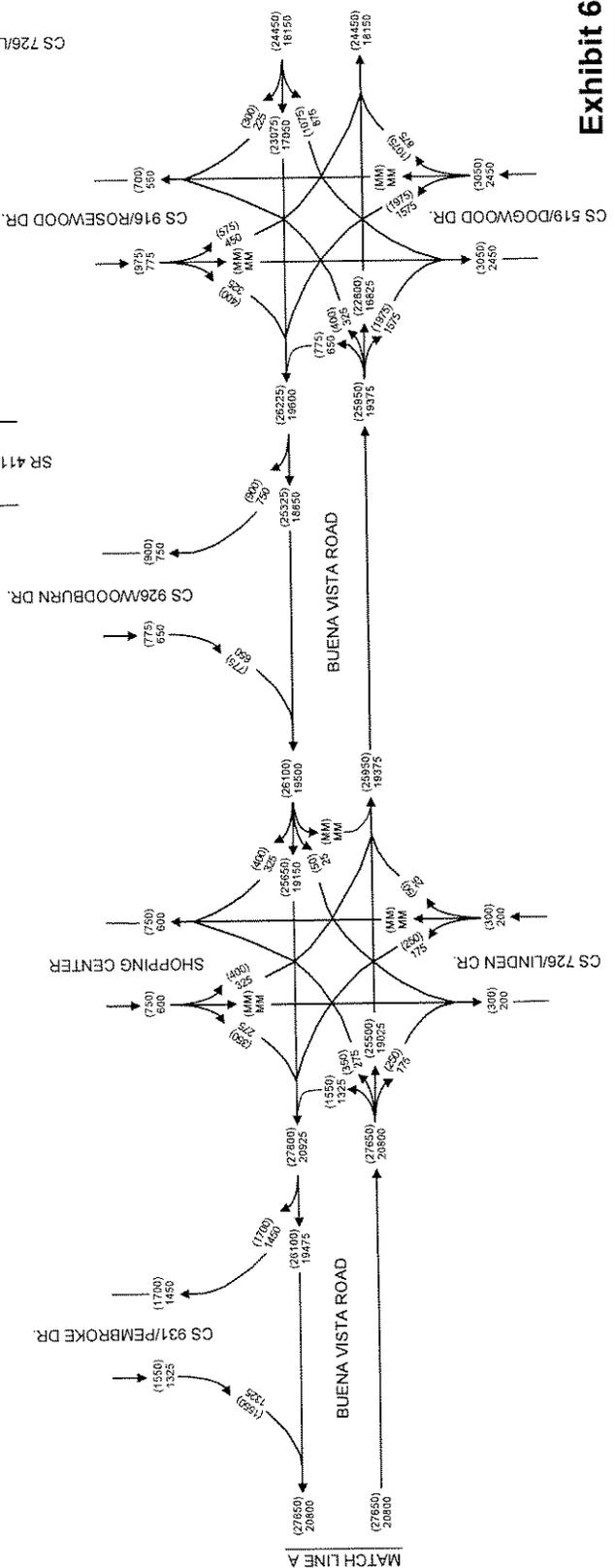
Exhibit 5



BUILD ALTERNATIVE

STP-8042(9)
 P.I. 351190
 MUSCOGEE COUNTY
 BUENA VISTA RD FM
 BRIGHTON RD TO
 DOGWOOD DR
 2026 ADT = (000)
 2006 ADT = 000
 24 HR. T = 5%
 S.U. = 2%
 COMB. = 3%
 GDOT 11/02

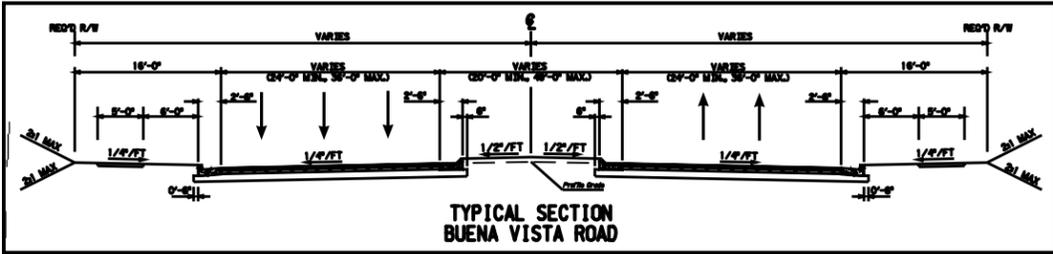
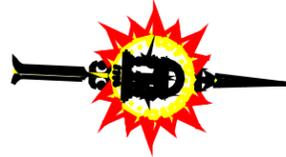
Exhibit 6



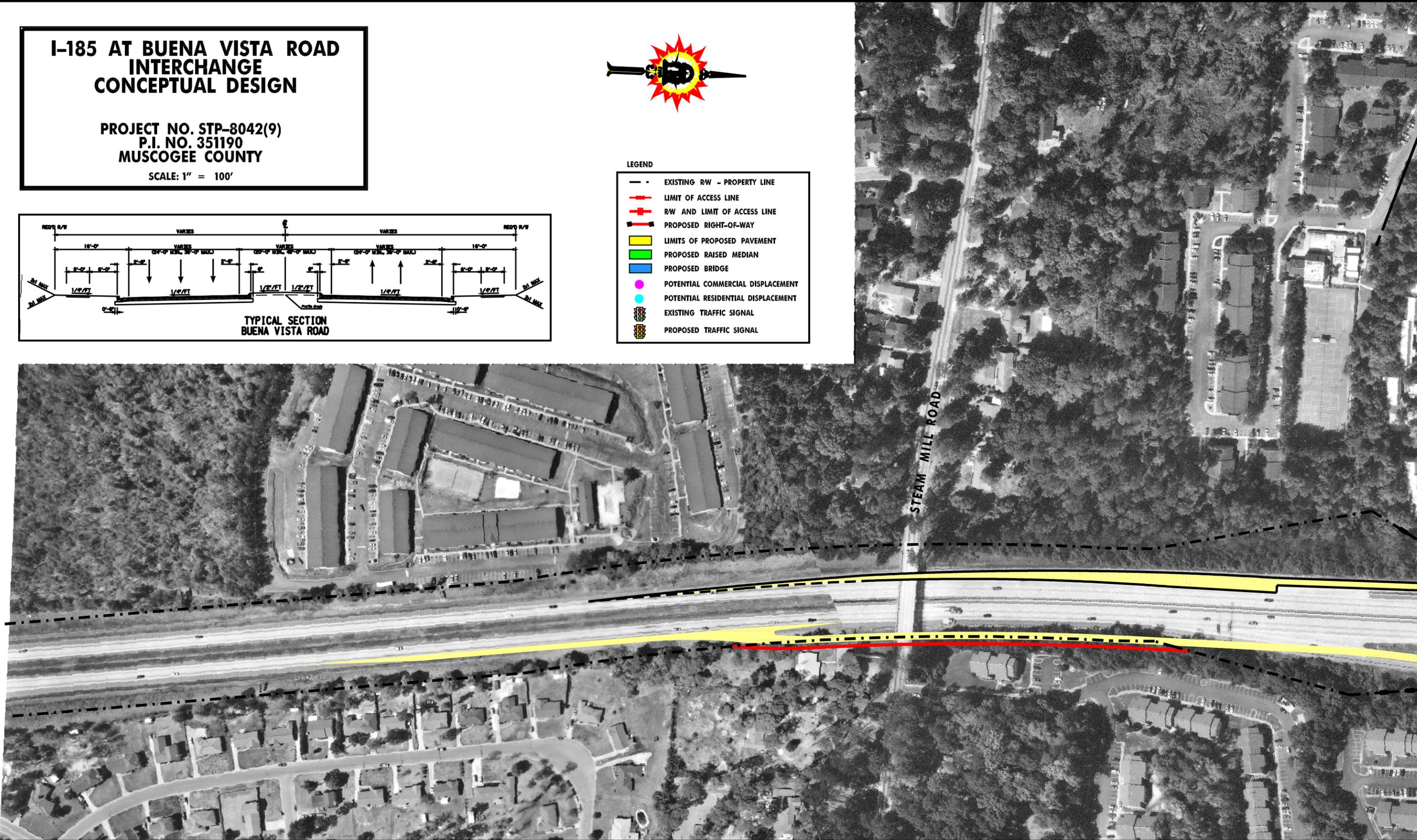
**I-185 AT BUENA VISTA ROAD
 INTERCHANGE
 CONCEPTUAL DESIGN**

PROJECT NO. STP-8042(9)
 P.I. NO. 351190
 MUSCOGEE COUNTY

SCALE: 1" = 100'



- LEGEND
- EXISTING RW - PROPERTY LINE
 - LIMIT OF ACCESS LINE
 - RW AND LIMIT OF ACCESS LINE
 - PROPOSED RIGHT-OF-WAY
 - LIMITS OF PROPOSED PAVEMENT
 - PROPOSED RAISED MEDIAN
 - PROPOSED BRIDGE
 - POTENTIAL COMMERCIAL DISPLACEMENT
 - POTENTIAL RESIDENTIAL DISPLACEMENT
 - ⓧ EXISTING TRAFFIC SIGNAL
 - ⓧ PROPOSED TRAFFIC SIGNAL



REVISION DATES	

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
MAINLINE PLAN

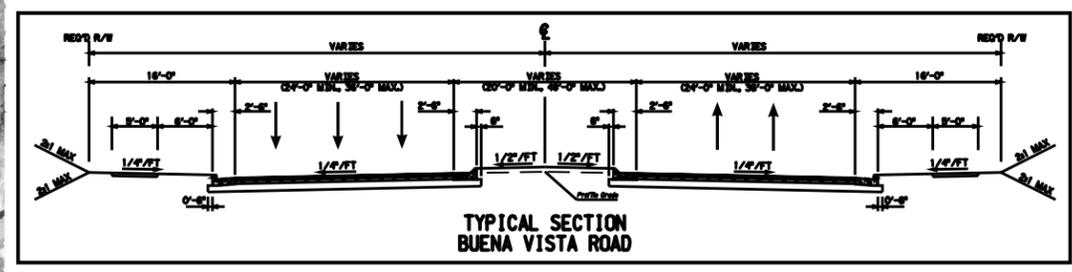
BUENA VISTA ROAD
 INTERCHANGE CONCEPT

DRAWING No.
13-01

I-185 AT BUENA VISTA ROAD INTERCHANGE CONCEPTUAL DESIGN

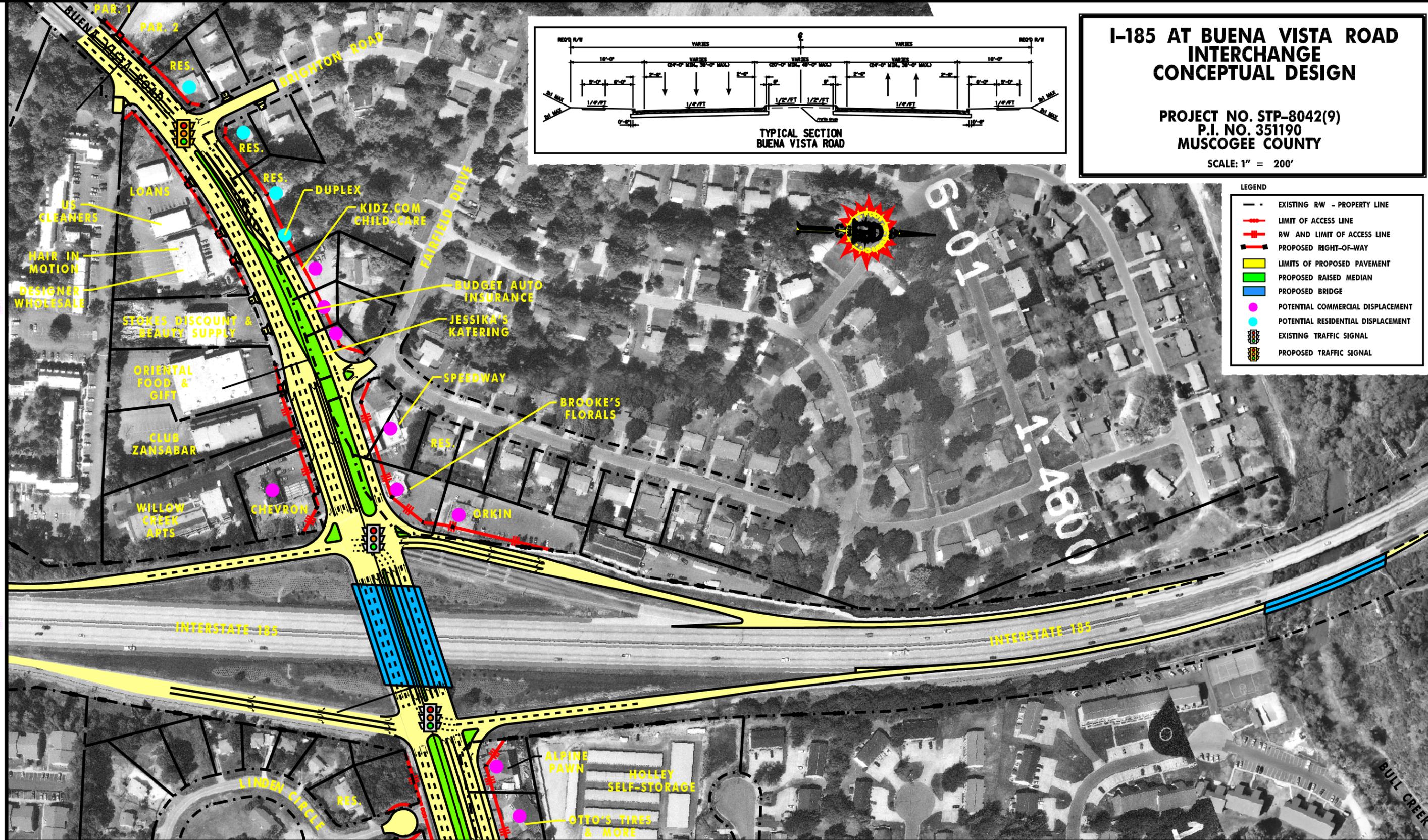
PROJECT NO. STP-8042(9)
P.I. NO. 351190
MUSCOGEE COUNTY

SCALE: 1" = 200'



LEGEND

- - - EXISTING RW - PROPERTY LINE
- - - LIMIT OF ACCESS LINE
- - - RW AND LIMIT OF ACCESS LINE
- - - PROPOSED RIGHT-OF-WAY
- ▭ LIMITS OF PROPOSED PAVEMENT
- ▭ PROPOSED RAISED MEDIAN
- ▭ PROPOSED BRIDGE
- POTENTIAL COMMERCIAL DISPLACEMENT
- POTENTIAL RESIDENTIAL DISPLACEMENT
- ⚡ EXISTING TRAFFIC SIGNAL
- ⚡ PROPOSED TRAFFIC SIGNAL



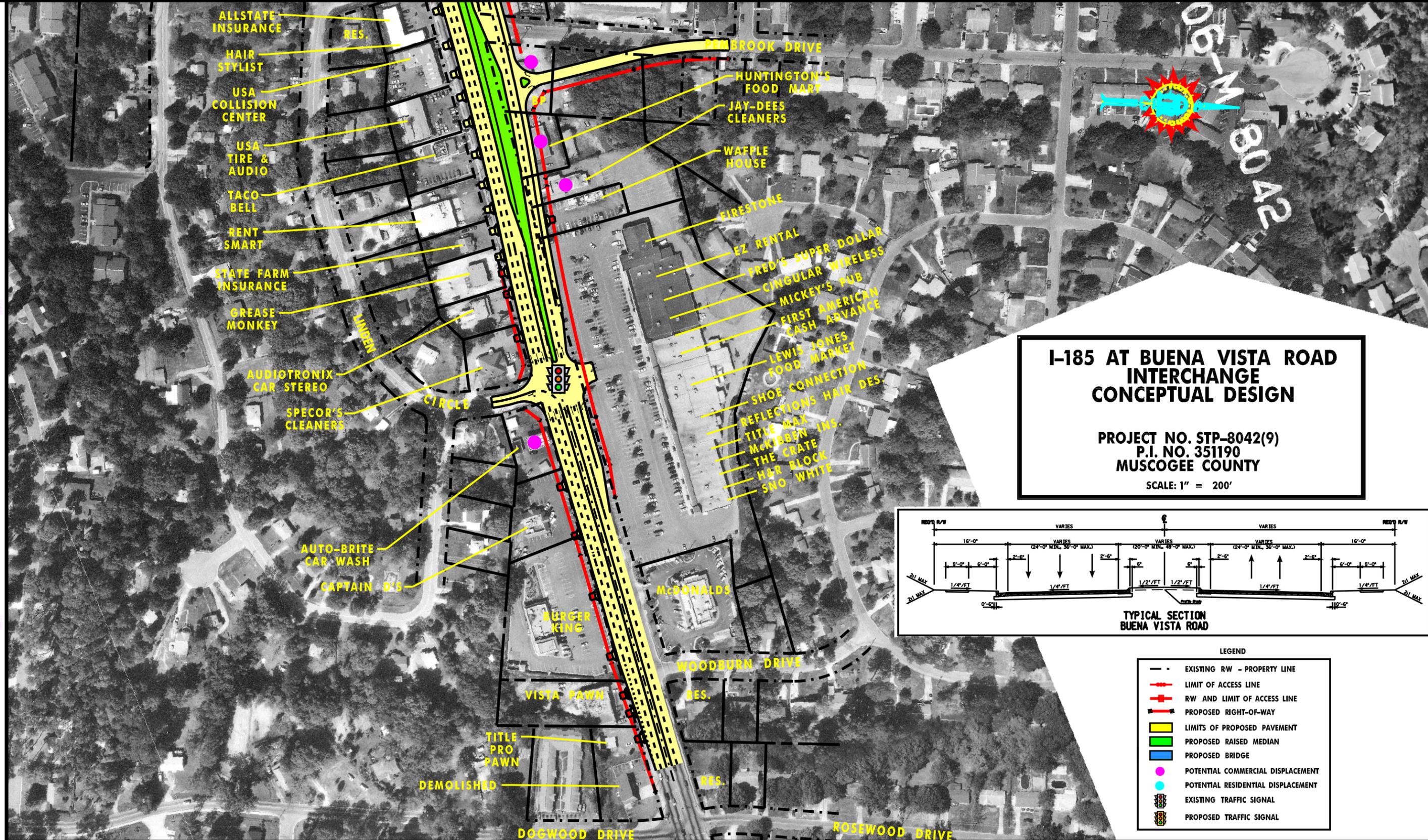
REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

MAINLINE PLAN

BUENA VISTA ROAD
INTERCHANGE CONCEPT

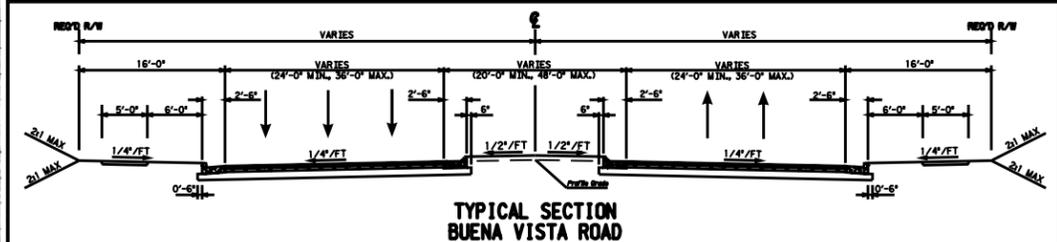
DRAWING No.
13-02



I-85 AT BUENA VISTA ROAD INTERCHANGE CONCEPTUAL DESIGN

PROJECT NO. STP-8042(9)
P.I. NO. 351190
MUSCOGEE COUNTY

SCALE: 1" = 200'



- LEGEND**
- - - EXISTING RW - PROPERTY LINE
 - +— LIMIT OF ACCESS LINE
 - +— RW AND LIMIT OF ACCESS LINE
 - +— PROPOSED RIGHT-OF-WAY
 - +— LIMITS OF PROPOSED PAVEMENT
 - +— PROPOSED RAISED MEDIAN
 - +— PROPOSED BRIDGE
 - POTENTIAL COMMERCIAL DISPLACEMENT
 - POTENTIAL RESIDENTIAL DISPLACEMENT
 - ⓧ EXISTING TRAFFIC SIGNAL
 - ⓧ PROPOSED TRAFFIC SIGNAL



REVISION	DATE	DESCRIPTION

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION

OFFICE: **MAINLINE PLAN**

BUENA VISTA ROAD INTERCHANGE CONCEPT

DRAWING No. 13-03

INITIAL CONCEPT TEAM MEETING
MEETING MINUTES
Buena Vista Road from I-185 to Dogwood Drive
STP-8042(9), P.I. No. 351190, Muscogee County

Date of Meeting: April 9, 2003
Location: GDOT Urban Design
Attendees: See Attached Sign-in Sheet

- Neal O'Brien began the meeting by stating the purpose of the meeting was to get input and direction on the Need and Purpose statement and concept.
- Taylor Wright of PBS&J discussed the Need and Purpose Statement for the project, and discussed the three current alternatives. These alternatives are:
 1. Alternative 1 – Compressed Diamond, widening to the south
 2. Alternative 2 – Compressed Diamond, widening to the north
 3. Alternative 3 – Compressed Diamond, symmetric widening
 4. Alternative 4 – Single Point Interchange.
- Alternative 1 has the highest right-of-way cost estimate, as prepared by the Department. Alternative 3 is estimated to have the highest construction cost, due to the three-stage bridge construction and cost of traffic control. It was the consensus of those present that alternative 2 is the preferred alternative. A decision will be made later as to whether all three alternatives will be carried forward. The City of Columbus representatives agreed to get feedback from local officials about carrying all three alternatives to a Public Informational Meeting. No date for a PIM will be set until further project analysis is performed.
- A single point interchange was studied but since turning movements are unbalanced this will not function as well as a "tight diamond" interchange. Construction cost for a single point interchange will also be higher. For these reasons, this alternative has not been carried forward.
- Joe Palladi asked what the impact of the dual lefts to I-185 SB & NB was to interstate operations. He indicated that this would be a main issue for FHWA. PBS&J will analyze this further by comparing LOS on I-185 with a single entrance lane (exist. Condition) vs. two lanes that taper down to one.
- More traffic exists on the section of Buena Vista Road east of I-185 than west of I-185 (35K vs. 25K). This is due to exiting traffic from I-185 wanting to go east on Buena Vista Road as evidenced by existing dual lefts on SB off ramp and existing dual right lanes on NB off ramp.

For this reason, the current design calls for three through lanes in the EB direction for the entire length of the project. However, the third WB through lane is dropped at the I-185 NB ramp intersection. The local planning model shows a six-lane section for the entire length of the project.

If a third lane were carried across the I-185 bridge, it would have to be dropped as a right turn Lane to Brighton Road. This is not a desirable situation because of the low volume of right turns at this location. It was decided that the lane configuration should remain as shown.

- The existing bridge over I-185 is steel, was built in 1964 and has a good sufficiency rating of 72. One option is to widen the bridge (actually construct a new bridge to achieve the “widening”) on the north side or south side (concrete structure) and leave the existing bridge in place. If this option is chosen, the existing bridge will need to be jacked about 1.5’. Another option is to widen to the north or south via a new concrete bridge, shift traffic, and then replace existing bridge with a new concrete bridge.

It was decided that both options for the bridge construction should remain open until more detailed design and survey is performed. For purposes of the concept report, a construction cost estimate should assume that the bridge would be replaced with a concrete structure.

- A 4” gas main is on the north side of the existing bridge and will have to be relocated. A telephone cable runs along the south side of the existing bridge. These utilities would have to be considered whether the bridge was replaced or widened.
- PBS&J will obtain updated traffic and accident data from GDOT and analyze further to confirm actual project termini. It was discussed that more accidents occur east of Dogwood yet Dogwood is now shown as the eastern terminus of this project. Traffic volumes do drop off at Dogwood thus the right drop lane as shown in the concepts. PBS&J will look at the first intersection east and west of the current termini and then go further with analysis if needed. At a minimum the project will be as shown. The further analysis may reveal the limits need to be extended in this project or it may lead to another project(s).
- The issue of logical termini was discussed. Neither the traffic volumes nor the accident data appear to justify the limits of the project as currently planned.

PBS&J will obtain updated traffic and accident data from GDOT and analyze further to confirm actual project termini. Traffic data will include volumes along Buena Vista Road, east of Dogwood Drive. The project may need to be extended to the east to Floyd Road, where volumes appear to drop off, or an additional project or projects may need to be planned.

The accident rates along Buena Vista Road were analyzed in four segments (Steam Mill Road to Brighton Drive, Brighton Drive to I-185, I-185 to Dogwood Drive and Dogwood Drive to Hunt Avenue). Accident rates support the western termini of the project, where rates

are much higher for the segment beginning at Brighton Drive. However, the accident rates do not drop off at the western termini of the project, and they actually increase.

PBS&J will obtain more specific accident data to determine if the increase in accident rates east of Dogwood Drive can be attributed to a specific intersection. If this is the case, an intersection safety project at that location may be added as a solution for logical termini.

Another option is to write the Need and Purpose statement for an operation improvement project, to improve access to and from the interstate. In any case, the N&P should be revised to include "project will improve access to/from I-185".

- There are potential 4(F) resources east of Dogwood Drive. This will be an environmental issue if the project limits are extended.
- There are USTs in all three alternates; a utility cost estimate is still needed.
- A wider sidewalk on the proposed bridge should be considered for improved sight distance at the ramp intersections.

CONCEPT MEETING
MEETING MINUTES

Buena Vista Road from I-185 to Dogwood Drive
STP-8042(9), P.I. No. 351190, Muscogee County

Date of Meeting: August 8, 2003
Location: GDOT Urban Design
Attendees: See Attached Sign-in Sheet

The purpose of the meeting was to address questions that were raised at the Initial Concept Team Meeting that was held on April 9, 2003.

- The PBS&J traffic study recommends dual left turn lanes in both the EB and WB directions at the I-185 interchange with Buena Vista Road. The question was asked whether single left turn lanes would operate at an acceptable level of service (LOS). Several movements at the interchange will not operate at an acceptable LOS (D or better) with single left turn lanes. A traffic study was provided which summarized the PBS&J findings.
- It was stated at the Initial Concept Team Meeting that a major concern for FHWA will be the impact of the proposed improvements on the operations of I-185. PBS&J presented a traffic study, which analyzed these impacts.

The traffic study shows that the LOS along I-185 at the NB and SB merge points would be no greater than a LOS B in the design year 2026, with the exception of the NB merge section in the PM peak hour. This section would operate at a LOS D with the proposed improvements. It was determined that an additional 350' of acceleration length at this merge point would be required in order to achieve an LOS of C.

The question was asked whether extending the merge length would impact the weaving length for the next interchange. It does not appear that the next interchange would be close enough to be impacted. However, a bridge over Bull Creek may require widening as part of the construction. Additional aerial photography to the north of Buena Vista Road will be required to determine the exact limits and impacts of the proposed construction.

PBS&J was asked if the signal timing for the left-turn movement from eastbound Buena Vista Road to the northbound I-185 on-ramp be adjusted in order to minimize the impact of the left-turn traffic on the northbound I-185 ramp merge section. PBS&J will analyze this and determine if it is possible without resulting in an unacceptable LOS on Buena Vista Road.

- At the Initial Concept Team Meeting, the issue of logical termini was discussed. It was thought that the project could be justified as a safety project, by using accident rates.

However, the accident rate actually increased in the section to the east of Dogwood Drive, past the project limits.

PBS&J was asked to obtain more detailed accident data, and determine if a specific intersection was the major source of the accidents to the east of Dogwood Drive. It was suggested that the project could be designed as proposed, and the project could recommend a separate intersection improvement project to correct a problem intersection.

Accident diagrams were obtained by PBS&J from the City of Columbus. This accident data showed that the Hunt Avenue intersection is the major source of the accident occurrences east of Dogwood Drive. A concept was developed by PBS&J to correct the safety and operations of the Hunt Avenue/ Wright Drive intersection. PBS&J also recommended that the proposed median be extended approximately 800' to Celia Drive, in order to address accidents in that area.

It was the opinion of those present that because of the close proximity of Hunt Avenue to Celia Drive, it would be difficult to not make the Hunt Avenue/ Wright Drive improvements part of an overall Buena Vista Road project. Furthermore, if the project was extended to Hunt Avenue, it would be difficult not to continue the widening to Floyd Road, where the traffic does drop off, and true logical termini exists. Because of these reasons, it was decided to consider an interchange improvement only.

- PBS&J was asked to consider a project that extended from Brighton Road on the West to Linden Circle/ Mall entrance on the East. This project would be considered an interchange improvement only. Eastbound Buena Vista Road should only be two lanes, in order to avoid the issue of logical termini for the third lane. PBS&J perform a traffic analysis for this section, and determine if it will operate at an acceptable LOS. If it does not operate at an acceptable LOS, PBS&J is to determine what year it will fail.
- At the Initial Concept Team Meeting, OEL stated that historical resources exist along Buena Vista Road, to the east of Dogwood Drive. Urban Design will contact OEL to determine the exact locations of these possible resources.

CONCEPT MEETING
MEETING MINUTES

Buena Vista Road from I-185 to Dogwood Drive
STP-8042(9), P.I. No. 351190, Muscogee County

Date of Meeting: December 11, 2003
Location: GDOT Urban Design
Attendees: GDOT - Neal O'Brien, Sal Pirzad
Arcadis - Alan Rainer
PBS&J - Ron Morris, Taylor Wright

The purpose of the meeting was to discuss the concept and make a decision on what concept will be taken forward to a Concept Team Meeting.

- The concept should be carried forward as an interchange improvement project. The Need and Purpose for the project will be to improve access to and from I-185. The proposed lane configuration should accommodate the projected traffic along Buena Vista Road, which will require three lanes across the I-185 bridge in the EB direction. The third lane should be dropped as quickly as possible in order to tie back into the existing two EB through lanes. The third lane in the WB direction will be dropped at NB entrance ramp to I-185, as determined by the traffic study.
- The concept should be designed so as not to negatively impact the operations of I-185 at the merge segments. A Level of Service of C or better should be maintained for the Interstate. In order to achieve this LOS, additional acceleration length for the NB entrance ramp will be required.
- Additional aerial photography will be required to cover the additional acceleration lane for the I-185 NB entrance ramp. GDOT will supply the additional photography.
- Arcadis will revise Supplemental Agreement Request No. 1. The revised supplemental will be less than the original request for \$17,396.00. The Scope for this Supplemental will also be revised.
- PBS&J will revise the project schedule based on the new direction for this project.

MEETING MINUTES

Buena Vista Road from I-185 to Dogwood Drive
STP-8042(9), P.I. No. 351190, Muscogee County

Date of Meeting: December 12, 2002
Location: GDOT Urban Design
Attendees: GDOT

Joe Palladi (Urban Design)
Glenn Bowman (Urban Design)
Neal O'Brien (Urban Design)
Sal Pirzad (Urban Design)
A.J. Tiarsmith (OEL)
Rachel Cogburn (Planning)
Mathew Fowler (Planning)

PBS&J
Taylor Wright

FHWA
Katy Allen

- Taylor Wright of PBS&J presented traffic studies and comparative data for 4 alternatives that have been considered. These alternatives are:
 1. Alternative 1 – Compressed Diamond, widening to the south
 2. Alternative 2 – Compressed Diamond, widening to the north
 3. Alternative 3 – Compressed Diamond, symmetric widening
 4. Alternative 4 – Single Point Interchange.
- All Alternatives include 3 through lanes throughout the project, in the eastbound direction. Three through lanes are proposed in the westbound direction, beginning approximately 1000' east of I-185 and ending at the NB entrance ramp to I-185. GDOT will verify that this lane configuration matches the local model.
- Capacity Analyses for Alternative 4 show that the single point interchange does not operate as efficiently as the compressed diamond alternatives. Alternative 4 would also result in a greater construction cost due to the increased bridge length over I-185. This alternative was eliminated due to these factors.
- The issue of logical termini was discussed. Traffic counts show that there is not a significant decrease in traffic at the project limits, and traffic actually increases in the westbound direction. Katy Allen of FHWA stated that accident data should be compiled throughout the project. Logical termini could be satisfied if the accident rates decrease at the project limits. GDOT will gather the necessary accident data.
- A new bridge over I-185 would result in approximately 4' of grade change. Staging of the bridge construction was discussed, and it was decided that Alternatives 1 and 2 would make staging easier than Alternative 3. PBS&J will develop a more detailed staging plan for Alternative 2, which would be a mirror image for that of Alternative 1.

- The location of utilities on the existing bridge may impact the staging plans. PBS&J will contact Johnny Cronan to identify the location of existing utilities.
- It is anticipated that the Steam Mill Road bridge over I-185, located approximately 2000' south of Buena Vista Road, will not be replaced as part of this project. PBS&J will verify that there will be adequate horizontal clearance at this bridge with the SB entrance ramp construction from Buena Vista Road.
- PBS&J will investigate the need for an 8' wide median on the proposed bridge over I-185.
- Sidewalks are proposed along both sides of Buena Vista Road. PBS&J will contact the local transit authority to determine bus stop locations, and to gather any information on pedestrian activity along Buena Vista Road. If pedestrian sidewalk usage is high, sidewalk should be maintained on the bridge over I-185 at all times during construction.
- Profiles for Buena Vista Road, I-185 and interchange ramps have been developed from old design plans. No survey or dtm information is available at this time. Mathew Fowler of GDOT Planning will check on the availability of any GIS topo information.
- Drawings of Alts 1, 2 & 3 were provided to OEL for their use in further environmental screenings. OEL will also attempt to contact the local Housing Authority or any local neighborhood or community leaders. Coordination with these groups may be necessary for Environmental Justice coordination.
- PBS&J will provide drawings of Alts 1, 2 & 3 to GDOT for use in preparing right-of-way cost estimates.
- Alternatives 1, 2 & 3 will be further evaluated. A decision to eliminate one or more of these alternatives will be made after reviewing r/w cost estimates and after conversations with local officials. It is preferable that one alternative be carried to a Public Information Meeting as well as to the initial concept team meeting.
- PBS&J will ensure there is adequate deceleration length on ramps from I-185, in addition to the storage length provided on these ramps.

CONCEPT MEETING
MEETING MINUTES

Buena Vista Road from I-185 to Dogwood Drive
STP-8042(9), P.I. No. 351190, Muscogee County

Date of Meeting: February 23, 2004
Location: GDOT Urban Design
Attendees: GDOT - Neal O'Brien, Sal Pirzad & Sei Kpeyei
FHWA - David Painter
PBS&J - Scott Rumble & Taylor Wright

- Taylor Wright of PBS&J gave a brief history of the project development and description:

The project was originally planned as improvements to Buena Vista Road from Brighton Road to Dogwood Drive. When studying the project during concept development it was determined that the limits for the project did not satisfy logical termini, because there was not a significant drop of traffic at Dogwood Drive. It was further determined that the project would have to be extended to Floyd Road in order to satisfy logical termini, which would approximately double the project length.

The traffic analysis for the project showed that without improvements to Buena Vista Road, there would be impacts to Interstate 185 due to exiting traffic backing up past the ramps onto the Interstate. It was decided that the project should be redefined as an interchange improvement project from Brighton Drive to Linden Circle at the mall entrance.

The current proposal is to widen Buena Vista Road to three lanes in the EB direction throughout the project limits. A third lane, which converts to a right turn lane onto NB I-185, is proposed in the WB direction from the mall entrance. A raised median is also proposed along Buena Vista Road within the limits of the project.

At the interchange, double left turn lanes to I-185 are proposed in both directions, which require the widening of both entrance ramps to two lanes, tapering to one lane before the merge with I-185. The NB entrance ramp would be extended approximately 350' to allow more merging distance with I-185 and to provide an acceptable Level of Service at the merge.

- David Painter of FHWA stated that parallel exit ramps rather than tapered should be used. PBS&J will revise the concept to include the parallel design for the SB and NB exit ramps.
- Graded shoulders should be used on all ramps. An existing curb and gutter on the ramps should be removed as part of the project. V-gutters can be used to handle any run-off that was being collected in the existing curb and gutter.

- PBS&J will verify that the raised islands at the ramp intersections are large enough to allow for pedestrian refuge. The island sizes should be increased if necessary.
- The issue of bike lanes was discussed. Bike lanes are not include as part of the design. The Department has verified that bike lanes are included on neither the State plan nor the local bike plan.
- The proposed traffic signals should be interconnected with underground rather than overhead fiber. There is no local TMC.
- The third EB through lane should be carried through Linden Circle at the Mall Entrance, and then tapered back into the mainline. PBS&J will revise the concept accordingly. The lane taper should be a minimum of 245' long, but longer is desirable.
- The bridge over I-185 would be replaced as part of this project, and a 17.5' vertical clearance would be required. For this reason, and because the new bridge would be concrete, and therefore a deeper structure, the profile of Buena Vista Road would have to be raised. Sight distance at the ramp intersections should be verified during preliminary design, when survey is available.
- FHWA will make a decision as to whether an Interchange Modification Report will be required as part of this project. The conceptual layout was given to FHWA at the conclusion of the meeting.

CONCEPT TEAM MEETING
MEETING MINUTES
Buena Vista Road from I-185 to Dogwood Drive
STP-8042(9), P.I. No. 351190, Muscogee County

Date of Meeting: May 31, 2005
Location: GDOT Urban Design
Attendees: See Attached Sign-in Sheet

- Sal Pizard opened the meeting.
- Taylor Wright of PBS&J described the concept to the group.
- Taylor then went thru the Concept Report
 - Neal O'Brien of GDOT mentioned that residential driveways need to be 16% max as opposed to 28% & 27% that was shown in the draft concept report.
- Discussion:
 - Tom Queen of GDOT asked if the existing grade over I-185 would have to be raised to accommodate the proposed bridge structure. PBS&J responded that it appears that the grade would have to be raised approximately 2' due to the increase in beam size from the existing steel beams to the proposed concrete beams. Design plans and maintenance records for the existing bridge show that there is currently no vertical clearance issues at the bridge.
 - Tom Queen mentioned noise barriers – he anticipates that noise walls might be required. It was also mentioned that the apartment complex on the west side of I-185 near Steam Mill Road had previously indicated they didn't want noise walls.
 - John Moretto of GDOT Traffic Operations indicated that common use driveways should be considered in order to limit the number of conflict points along Buena Vista Road. It was agreed that this should be considered during preliminary design.
 - The question was asked whether the existing intersections were interconnected? The City indicated that they are, with overhead. The GDOT District Engineer expressed the desire to construct underground fiber connections as part of the project, including cameras and DSL to be monitored in Atlanta and Macon. PBS&J noted that underground fiber interconnect was included in the construction cost estimate, but that the other items needed to be added.
 - PBS&J will provide the District with a copy of the traffic study so that they can research the need for a new traffic signal at Brighton Road.

- Kerry Gore of GDOT District Utilities stated that they will require 10' behind the proposed walls to allow for utility relocations.
- It was mentioned that no survey or GIS information was available during the concept preparation. Glenn Bowman of GDOT Urban Design requested that the City send their topographic info to PBS&J. PBS&J will use this information to verify the quantities/ cost for the proposed walls.
- Scott Zehngraft of GDOT Traffic Safety and Design questioned the use of dual rights at the intersection of the NB exit ramp with Buena Vista Road. He asked whether a dual left /right center lane would operate more efficiently. PBS&J will verify.
- PBS&J will correct the utility cost that is shown in the concept report. The reimbursable and non-reimbursable utility costs are reversed.
- The City would like to revise the Project Management Agreement (PMA) due to the higher than anticipated costs of R/W and reimbursable utilities. GDOT asked the City to prepare a letter requesting a revised PMA. This request will be discussed in further detail between GDOT and the City. The City also expressed the desire to have GDOT perform the R/W acquisition.
- Scott Zehngraft of GDOT Traffic Safety and Design questioned the proposed storage lengths of turn lanes on the I-185 exit ramps. It was noted that the proposed storage lengths are roughly the same as the existing storage lengths. PBS&J will verify the recommendations. PBS&J will also analyze the storage lengths using HCS in addition to Corsim.
- It was noted that the project is currently programmed in long range.
- Neal O'Brien will find out if a value engineering study will be required.
- Additional comments after the meeting:
 - PBS&J was asked to develop a cost/ benefit analysis.



MEMORANDUM

TO: Taylor Wright, P.E.

FROM: Scott Rumble, P.E.

SUBJ: Responses to GDOT Traffic Analysis Comments Made at the Buena Vista Road 5-31-05 Concept Team Meeting

DATE: June 22, 2005

Here are my responses to the traffic analysis questions/comments from the 5-31-05 Concept Team Meeting that I did not attend:

- Scott Zehngraff at the Department requested that we look at a shared left/right turn lane instead of an exclusive right-turn lane for the middle lane of the NB exit-ramp approach to Buena Vista Road. First, the right-turn volumes are 76% of the AM design hour volume and 74% of the PM design hour volumes at this approach. Therefore, based on traffic volumes alone, it would be reasonable to have 2 right-turn lanes and 1 left-turn lane at this approach since the right-turning traffic is more than three times the left-turn traffic in both the future AM and PM peak hours. Second, the CORSIM analysis showed that the proposed shared middle left/right turn lane would cause this approach to operate a little better in the AM design hour (approximately 1.0 sec/veh less delay) and would cause this approach to operate a little worse in the PM design hour (approximately 0.7 sec/veh more delay). Therefore, CORSIM does not conclusively show that one configuration is better than the other. I recommend keeping the current lane configuration since the right-turn volume is three times more than the left-turn volume at this approach.
- Scott Zehngraff at the Department also questioned the proposed turn-bay lengths for the exit-ramps and thought that they should be longer. The proposed turn-bay lengths are adequate and result in an acceptable LOS for those approaches under future design hour conditions. Theoretically, there is no problem with lengthening the turn-bay lengths on the exit-ramps (i.e. it would not hurt operations) but there would need to be criteria other than acceptable LOS provided in order to justify that the turn-bays were long enough. The reason that the turn-bay lengths on the ramps were not lengthened is that the improvements on Buena Vista Road will provide more capacity at the intersections with the ramps, eliminating the need to provide more capacity on the exit-ramps themselves. It was also suggested that HCS be used to analyze storage bay lengths. HCS does not model turn-bay lengths. HCS only takes into consideration that there is a turn-bay but it does not care how long the turn-bay is. Moreover, HCS, or any other non-simulation program, would not be capable of analyzing the proper traffic operations of closely spaced intersections such as these two intersections with the I-185 exit ramps. CORSIM is best suited to analyze the traffic operations of such a situation.